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INSECTS OF SAMOA  
AND OTHER SAMOAN TERRESTRIAL  
ARTHROPODA

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PART III. LEPIDOPTERA

FASC. 2. Pp. 65-116

MICRO-LEPIDOPTERA

By EDWARD MEYRICK, B.A., F.R.S.



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# INSECTS OF SAMOA AND OTHER SAMOAN TERRESTRIAL ARTHROPODA

Although a monograph, or series of papers, dealing comprehensively with the land arthropod fauna of any group of islands in the South Pacific may be expected to yield valuable results, in connection with distribution, modification due to isolation, and other problems, no such work is at present in existence. In order in some measure to remedy this deficiency, and in view of benefits directly accruing to the National Collections, the Trustees of the British Museum have undertaken the publication of an account of the Insects and other Terrestrial Arthropoda collected in the Samoan Islands, in 1924-1925, by Dr. P. A. Buxton and Mr. G. H. E. Hopkins, during the Expedition of the London School of Hygiene and Tropical Medicine to the South Pacific. Advantage has been taken of the opportunity thus afforded, to make the studies as complete as possible by including in them all Samoan material of the groups concerned in both the British Museum (Natural History), and (by courtesy of the authorities of that institution) the Bishop Museum, Honolulu.

It is not intended that contributors to the text shall be confined to the Museum Staff or to any one nation, but, so far as possible, the assistance of the leading authorities on all groups to be dealt with has been obtained.

The work will be divided into eight "Parts" (see p. 3 of wrapper), which will be subdivided into "Fascicles." Each of the latter, which will appear as ready in any order, will consist of one or more contributions. On the completion of the work it is intended to issue a general survey, summarising the whole and drawing from it such conclusions as may be warranted.

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Insects of Samoa.

Part III, Fasc.2, pp.65-116.

Micro-Lepidoptera

By Edward Meyrick.

p.68     "Spenarches"     should     read Sphenarches.

p.98.     "Aeloscelis"     should     read Aeloscelis.

p.108.     "titchi"     should     read Litchi.





# INSECTS OF SAMOA

PART III. FASC. 2

## MICRO-LEPIDOPTERA

BY EDWARD MEYRICK, B.A., F.R.S.

HARDLY half-a-dozen named species of Micro-Lepidoptera were recorded from Samoa before the receipt of the present collection, by which the total number is raised to 137. Out of this whole number thirty are found also in Papuan, Australian, or extra-Pacific regions, and it is probable that the whole of these are introduced by man through ships, though in some cases the actual habits are not yet known; seventeen are found in other islands of Polynesia (excluding the Papuan region), but not elsewhere, and these also are probably transferred from one group to another only by man, though they may be capable in some cases of passing without help from one island to another within the same group; and the remaining ninety are all endemic. These numbers are practically in the ratios of 6 : 1 : 2; that is,  $\frac{6}{9}$ , or  $\frac{2}{3}$  of the species are endemic, and of the remaining third,  $\frac{2}{3}$  belong to other faunas and  $\frac{1}{3}$  are of strictly Polynesian origin. These proportions are likely to be maintained for a considerable period; I am satisfied that a large number of endemic species remain to be discovered, but the importation of species will still go on at a proportionate rate; in Hawaii, where careful observations have been made by the resident entomologists for a number of years, it is found that, notwithstanding the peculiar isolation of that group, fresh imported species are continually turning up. These ratios prove unquestionably that Samoa constitutes, by the test of specific endemicity, a perfectly distinct and isolated faunal region.

The relation of this fauna to others must be studied through the genera. The total number of genera is seventy-nine, but twenty-five of these are only represented by apodemic species and may be disregarded; the ninety endemic species are then distributed in fifty-four genera, which also include sixteen of

the apodemic species, or 106 species altogether. This is an abnormal ratio, being an average of barely two species to the genus, but the proportion of species to genera will probably be materially increased by further collecting, though it is necessarily always low when the total fauna is small. Of these fifty-four genera only eight, belonging to six distinct families, are endemic, and these are all monotypic; therefore, isolated as the group is, it cannot in a biological sense have been isolated very long. If we compare Hawaii, with a very prolonged history of permanent isolation, we shall find that most of the principal genera, rich in species, are endemic, and some of these so peculiar that they have no near relatives elsewhere; the endemic genus *Hyposmocoma* contains 190 species.

Taking the remaining forty-two genera in order of magnitude, we find:

*Labdia*, seventeen species, all endemic but two; a considerable Indo-Malayan genus, also freely colonising Australia; the larvae are refuse-feeders, and the islands are apparently well suited to them, the genus being equally prominent in Fiji and the New Hebrides.

*Decadarchis*, nine species, of which seven are endemic; this genus, of which the larvae also feed on refuse and dead wood, is probably Indian by origin, like the last, occurring also in the African and Malayan regions and in Australia, but apparently attaining its greatest development in the South Pacific islands. This and the preceding genus have the obvious advantage of being able to find suitable larval food in any island that they can reach; they alone show considerable specific development, probably due to this suitability rather than to any special earliness of colonisation.

*Hieromantis*, five species, of which two occur also in Fiji; a small Indo-Australian genus, probably also a rubbish-feeder.

*Acrocercops*, five species, two of these imported; a very large cosmopolitan (but especially Indian) genus; the larvae mine in leaves, usually of trees and shrubs.

*Thiotricha*, five species; a considerable Indo-Australian genus, larvae case-feeders on leaves of plants.

*Eucosma*, four species, one of these introduced; this very large genus is cosmopolitan, but especially characteristic of the Northern hemisphere, not much developed in the Indo-Malayan region, and very little in Australia and New Zealand.

*Stathmopoda*, three species; a large genus, mainly Indo-Australian, the larvae mostly rubbish-feeders.



*Opogona*, three species, related together and probably developed from a single immigrant form ; a considerable genus, cosmopolitan in warm latitudes, but specially Indo-Australian, the larvae feeding on dead vegetable tissues, and probably often having relations with Termites, sometimes feeding within their nests.

*Spilonota*, three species, one of these also in Fiji ; Indo-Malayan by origin, but with more specific development in Australia, the larvae being commonly attached to Myrtaceae.

The remaining thirty-three genera include in each case only one or two species, and all without exception are of Indo-Malayan type, the line of relationship passing through the New Ireland group and not by way of Australia. This explanation covers the whole Micro-Lepidopterous fauna, nor is there any evidence of more than one period of immigration.

Two cosmopolitan families, easy of observation, are absent from the indigenous fauna, viz. the Pterophoridae and Oecophoridae. The Pterophoridae are obviously insects of very weak flying powers, but on the other hand their structure is apparently specially adapted to favour wide distribution by the wind, and in fact many of the species have exceptionally extensive ranges ; they are, however, as I have pointed out elsewhere, a family of very recent origin, and attached exclusively to the most modern and highly developed orders of flowering plants, and this circumstance probably accounts for their absence ; they have not previously succeeded in effecting a lodgment in Samoa or Fiji, but are now filtering in with assistance. It should be noted, however, that New Zealand is fairly well supplied with indigenous Pterophoridae, and Hawaii also has species, the source of these being probably in both cases America.

The Oecophoridae are a much more puzzling problem. The family is one of the largest, being only exceeded by the Gelechiadae,\* and though not one of the earliest, it is certainly older than the Gelechiadae. It is numerous in all regions, but particularly so in those adjacent to the Pacific, Australia and New Zealand, in each of which it is the largest family, though in the main originating separately, the New Zealand forms chiefly from South America, and the Australian mostly from India. The family is equally at home in the moist temperate climate of New Zealand and the dry heat of Australia ; from the latter continent no fewer than 1,500 Oecophoridae are already known. There

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\* See note on p. 76.—E. E. Austen.

is much diversity of larval habits, but probably a considerable proportion of the genera feed on mosses, lichens, dead wood and bark, which would be available anywhere, whilst even the more highly developed genera, which are attached to plants of special character, are not in general more exacting than other leaf-feeders (such for example as the Gracilariad *Acrocercops*, which is indigenous in all three regions). Nevertheless, not a single species of Oecophoridae has occurred in Samoa; neither has a single one been found in Hawaii, though the fauna of that group is now very well known and has some remarkable analogies with that of New Zealand, such as the excessive development of the Pyralid genus *Scoparia*, found everywhere in New Zealand associated with Oecophoridae and probably often feeding on the same plants, yet in Hawaii unaccompanied. Hawaii can only have obtained its fauna by wind transportation over a wide sea, and some of its eccentricities may reasonably be attributed to chance; but a striking feature like this, shared by Hawaii and Samoa, cannot be accidental; there must be some compelling cause, though at present I am unable to suggest its nature. A single Oecophorid only has been taken in Fiji, a species of the Australian genus *Peritorneuta*.

The larvae referred to as refuse-feeders live on a great variety of dead or decaying vegetable matter, such as the dead stems, leaves, or seed-vessels of sugar-cane, cotton, coconut, etc., also apparently on the excrement or rubbish left by other insects in such situations, thus acting as scavengers; this habit of life is less usual in cool or dry countries, but seems especially favoured in hot damp climates, where such materials are naturally more liable to disintegration. Larvae with these habits must always have had a good chance of being transferred from one island to another by the natives in their canoes, ever since the earliest appearance of man in the region. It must not be assumed that such insects are not injurious; it is found in some cases that when plentiful, their natural food running short, they may gnaw the substance of the growing plants, and damage the buds or vegetating shoots.

#### PTEROPHORIDAE

##### 1. *Spenarches caffer* Zell.

Upolu, Apia, March, May; 2 ex. Also one in Bishop Museum. Occurs in Africa, Seychelles, Ceylon, India to Japan, the Malayan region, New Guinea, Australia, New Hebrides, Tonga, West Indies. Larva very polyphagous, but

especially on LEGUMINOSAE and CUCURBITACEAE, with which it has probably been introduced.

### 2. *Alucita candidalis* Walk.

In 1885 I recorded the Australian *A. aptalis* Walk. from Samoa, Tonga, and New Hebrides, on specimens taken by Mr. G. F. Mathew, but I am now convinced that these were *A. candidalis*, which I have lately seen from the New Hebrides, and with which I was not then familiar; it occurs from Africa and India to N.E. Australia and New Guinea. There is no example of the genus amongst the present material.

### 3. *Marasmarcha pumilio* Zell.

Upolu, Apia, March; 1 ex. Occurs from S. Africa and Madagascar through India, China, and Malayan region to New Hebrides and Fiji, also in N. America. Larva on *Alysicarpus* and probably other LEGUMINOSAE.

## TORTRICIDAE

### 4. *Adoxophyes libralis*, n. sp.

♀ 19 mm. Head, thorax light ochreous, face and shoulders irrorated ferruginous. Palpi ochreous irrorated ferruginous. Forewings oblong, costa anteriorly strongly arched, termen slightly sinuate, vertical; light ochreous, with violet-whitish iridescence and slight irregular strigulation of brownish scales minutely tipped dark fuscous; costal edge obscurely brownish; central fascia indicated by obscure violet-brownish spots on costa at  $\frac{2}{5}$  and dorsum at  $\frac{3}{5}$ , connected by a hardly marked line of irroration; a similar somewhat larger spot on costa at  $\frac{3}{4}$ , a small spot towards apex, and an undefined slender irregular streak along termen: cilia iridescent whitish-ochreous. Hindwings light ochreous-yellowish; cilia whitish-yellowish.

Upolu, Apia, September (*Armstrong*); 1 ex. Also 1 ♀, 20 mm., very worn, Tutuila (*Kellers*) in Bishop Museum. It is unfortunate that there is no ♂, but I am unable to identify this insect with any of the other species of the genus.

### 5. *Peronea xylodryas*, n. sp.

♀ 17 mm. Head, thorax brown. Palpi dark brown. Forewings rather elongate-oblong, slightly dilated posteriorly, termen slightly rounded, little

oblique; brown; basal patch with some black strigulae towards costa and a whitish dot on fold, posteriorly suffused leaden-grey with large tufts above and below fold, limited by a narrow somewhat curved dark brown fascia partly edged black; beyond this six narrow irregular leaden-grey fasciae, third and fourth little marked, sixth terminal, preceded on lower part by several small blackish-grey spots, large tufts above and below fold beneath middle of wing, some small tufts in disc posteriorly; cilia grey mixed darker. Hindwings grey; cilia pale grey, a darker subbasal shade.

Upolu, Malololelei, 2,000 feet, April; 1 ex. Allied to the Indian and Australian *P. epidesma*, but rather broader-winged and quite distinct.

#### EUCOSMIDAE

##### 6. *Spilonota aphrocymba*, n. sp.

♂ 14 mm. Head white. Palpi white, second joint tinged grey externally, extreme tip of terminal joint grey. Antennal notch near base, shallow. Thorax dark grey, posterior margin white, tegulae white with a black spot on inner side and grey spot on shoulder. Anal tuft large, whitish, valvae very elongate. Forewings with broad costal fold from base to  $\frac{2}{3}$ ; white, costal fold dark fuscous, a dark fuscous elongate spot adjacent to its apical portion beneath, and emitting a short projection posteriorly; some slight grey strigulation on dorsal area: a blackish-fuscous rounded-triangular blotch on tornus; a fine blackish line from costa at  $\frac{3}{4}$  to termen beneath apex, three slight blackish marks on costa above this, and some black speckling towards termen beneath it: cilia with base blackish (imperfect). Hindwings grey.

Upolu, Malololelei, July (*Wilder*); 1 ex. in Bishop Museum. Allied to *S. thalassitis*, of Java.

##### 7. *Spilonota glaucothoe*, n. sp.

♀ 17 mm. Head white, crown suffused blackish-grey except on sides. Palpi white mixed dark grey, basal joint and a median band of second black. Thorax white, dorsum suffused grey. Forewings termen slightly rounded, somewhat oblique; ochreous-white; markings grey suffused black; a small spot on base of costa; a triangular spot on dorsum near base; two oblique fasciate blotches from costa at  $\frac{1}{4}$  and middle, first reaching  $\frac{3}{4}$  across wing, second rather more than half, apex of first rather produced towards second; a trapezoidal blotch on dorsum before tornus; three small spots on costa posteriorly; an

oblique blotch before upper part of termen running to apex, a small spot on termen below middle nearly meeting this, two dots on upper part of termen. Hindwings rather dark grey.

Upolu, Malololelei, 2,000 feet, April; 1 ex. Allied to *S. melanacta*, of Assam, but without the antemedian dorsal blotch of that species.

#### 8. *Spilonota holotephras* Meyr.

Upolu, Apia, March; 1 ex. Described (Exot. Micr. iii, 67) from a specimen taken in Fiji, where it was bred from guava, and probably introduced thence to Samoa with its food-plant.

#### 9. *Acroclita causterias*, n. sp.

♀ 13 mm. Head white, crown partially tinged grey. Palpi white, second joint with oblique grey band. Maxillary palpi distinct, short, filiform, porrected. Thorax whitish-grey, collar and a spot on each tegula dark grey. Forewings elongate, termen slightly sinuate, nearly vertical; white, some scattered coarse fuscous strigulae; nine small dark fuscous spots on costa, short fuscous strigulae alternating with these; some small blackish marks irregularly scattered in disc; some irregular fuscous suffusion including some blackish marking extending along dorsum from base to  $\frac{2}{3}$ ; a leaden blotch on tornus narrowed upwards, edged black, divided by a black longitudinal line, and surmounted by a dark fuscous spot; a dark fuscous mark from last costal spot along upper part of termen, preceded by slight grey suffusion: cilia white, on termen tips infuscated, at apex a dark fuscous bar. Hindwings 3 and 4 coincident; grey; cilia whitish-grey.

Upolu, Malololelei, 2,000 feet, November; 1 ex. The occasional development of maxillary palpi, as here, seems in the Tortricina to have no generic importance.

#### 10. *Crusimetra anastrepta*, n. sp.

♂♀ 10–12 mm. Head grey to pale ochreous, sometimes partly tinged reddish. Palpi 3, triangularly scaled, dark grey more or less tinged reddish, basal joint, and a suffused band on second joint containing a dark spot, whitish. Thorax dark fuscous partially tinged reddish, sometimes mixed pale ochreous. Forewings termen sinuate, hardly oblique; dark grey mixed dark fuscous, more or less tinged or suffused crimson-reddish; several small tufts of raised scales

in disc ; costa with indistinct paired short whitish strigulae ; an irregular leaden streak forming anterior margin of ocellus, and one close before termen from near apex to near tornus, its upper extremity connected by a stria with penultimate and antepenultimate pairs of costal strigulae ; a blackish longitudinal mark in disc about  $\frac{3}{4}$ , and one between this and apex : cilia reddish-ochreous-grey. Hindwings grey ; cilia pale grey ; in ♂ a light grey expansible hairpencil from base to middle lying along a suprmedian groove, veins 3 and 4 approximated only (not connate).

Upolu, Malololelei, 2,000 feet, February, June, July ; 8 ex. I have also an unquestionable ♂ example (somewhat larger, 14 mm.) from Ceylon, Haputale ; the species is therefore probably not indigenous in Samoa, but has been imported with its food-plant.

#### 11. *Ancyliis enneametra*, n. sp.

♀ 9 mm. Head, thorax grey. Palpi dark grey. Forewings termen deeply concave beneath falcate apex ; white ; anterior  $\frac{2}{5}$  of costa with five blackish dots, remainder narrowly blackish with four oblique white strigulae ; dorsal half suffused grey narrowed posteriorly to tornus ; an irregular dark fuscous shade across base of subapical excavation, confluent with a grey spot representing interior of ocellus ; cilia grey, on costa dark fuscous. Hindwings 3 and 4 stalked ; grey ; cilia light grey.

Upolu, Apia, March ; 1 ex.

#### 12. *Crociosema plebeiana* Zell.

Upolu, Aleipata, Lalomanu, Apia ; Savaii, Tuasivi, Fagamalo ; several ex. Now cosmopolitan, including records from Fiji, Tonga, Hawaii, and New Zealand ; the larva feeds on *Hibiscus* and other cultivated MALVACEAE, with which it is introduced. Probably its original home is South America.

#### 13. *Eucosma favicolor*, n. sp.

♂ 11 mm. Head white, sidetufts greyish-ochreous. Palpi brownish-ochreous, terminal joint and apex of second white. Thorax brownish mixed dark grey. Forewings moderately broad, costa moderately arched, without fold, termen straight, little oblique ; ochreous-brownish irregularly strigulated dark fuscous, towards costa posteriorly more ochreous ; anterior half of costa strigulated blackish, some purplish suffusion beneath this ; some irregular

whitish strigulation on discal and dorsal portions of basal area, and median band of whitish strigulation not reaching costa; five pairs of oblique white strigulae from posterior part of costa separated by dark fuscous strigulae, from each pair a short blue-leaden mark, first and third prolonged as strigae to meet two thick violet-leaden streaks enclosing ocellus, second of these interrupted above tornus; no black scales in ocellus; cilia brownish-ochreous, a deeper basal line, on tornal area whitish with line grey. Hindwings 3 and 4 coincident; dark grey; cilia whitish-grey, a grey subbasal shade.

Upolu, Malololelei, 2,000 feet, December; 1 ex. Perhaps most nearly allied to *E. pervicax*, of North Australia.

#### 14. *Eucosma isomalla*, n. sp.

♂ 10 mm. Head white. Palpi white, second joint tinged ochreous towards middle. Thorax ochreous-whitish. Forewings moderate, without costal fold, termen nearly straight, rather oblique; ochreous-whitish, obscurely strigulated ochreous and slightly speckled violet-grey in disc and posteriorly, on dorsum strigulated ochreous except anteriorly, on costa with about ten oblique fulvous-ochreous strigae, with strigae of submetallic iridescence between these posteriorly; lateral margins of ocellus indicated by submetallic iridescence, with three minute marks of two or three blackish specks each within it; a small round fulvous apical spot: cilia whitish, a dark fuscous antemedian and fuscous apical line. Hindwings 3 and 4 coincident; rather dark grey; cilia pale grey, a darker subbasal shade.

Upolu, Aleipata, Lalomanu, November; 1 ex. Nearly allied to the preceding species, but apparently distinct.

#### 15. *Eucosma involucrata*, n. sp.

♂ 16 mm. Head yellow-whitish mixed grey on crown, a blackish frontal bar, face whitish. Palpi ascending, with appressed scales, pale yellowish, second joint with basal, median, and apical blackish spots, terminal joint short, grey. Antennae minutely ciliated, towards apex dentate. Thorax grey, anterior half spotted pale yellow. Forewings elongate, rather dilated, costa moderately arched, costal edge reflexed on basal third with fringe of appressed scales beneath it, termen nearly straight, vertical; light ochreous-yellowish; a large basal patch, its upper half mostly occupied by dark fuscous streaks, edge running very obliquely from  $\frac{1}{4}$  of costa to fold, where it forms an irregular projection, dorsal area marked with six suboblique bent streaks, of which first and

third are blue-leaden, others dark fuscous; rest of costa dark fuscous with seven pairs of white strigulae, first two pairs emitting short oblique blue-leaden strigae, third a very oblique blue-leaden stria which runs to join apex of an erect silvery streak from tornus, fifth a curved blue-leaden striga which runs to apex of seventh; from before third pair a very oblique wedge-shaped dark fuscous streak runs to disc at  $\frac{1}{5}$ , with a projection from middle of anterior edge; from middle of dorsum a rather oblique slender dark fuscous streak terminating in a crescentic spot in disc, on each side of this a blue-leaden stria, some blue-leaden marking in disc before this; several dark fuscous and blue-leaden marks in disc towards termen; a dark fuscous spot extending along lower half of termen to tornus, with a projection cutting the silvery streak, an apical spot, and a terminal dot between these: cilia fuscous with two pale yellow median bars (imperfect). Hindwings 3 and 4 stalked; dark fuscous; cilia grey.

Samoa Islands, but without specific locality; 1 ex. Very distinct.

#### 16. *Eucosma defensa* Meyr.

Upolu, Malololelei, 2,000 feet, February, April; 9 ex., one of these bred from rotten breadfruit, perhaps an accidental association, as the normal food-habit is given below. Described (Exot. Micr. ii, 517) from a specimen from Fiji, also occurring in New Hebrides, but afterwards obtained freely in the Malay States, and probably introduced thence into the Pacific region, bred in both regions from larvae feeding on leaves of *Pongamia* and *Dalbergia* (LEGUMINOSAE).

#### 17. *Eucosma samoana* Reb.

Described (Mitt. Naturh. Mus. Hamb. xxxii, 153, 1915) as follows (an abbreviated translation):

♀ 18 (19) mm. Palpi twice diameter of head. General colouring grey; forewings with darker striae and blackish-brown markings, consisting of a streak on fold from base angularly bent before middle and running to dorsum, a small oval spot beneath middle of costa prolonged in a black longitudinal streak to beneath apex, and a rounded dorsal spot before tornus; costa dark-spotted, with indistinct whitish strigulae, two longer pairs towards apex more conspicuous. Hindwings blackish.

The description cannot refer to any insect in this collection, and I do not recognise it as any species known to me. As only the ♀ was known, it might be a *Spilonota*, which is in fact more probable.



18. *Bactra microtripta*, n. sp.

♂♀ 10–11 mm. Head, thorax grey-whitish. Palpi  $1\frac{2}{3}$ , grey-whitish, second joint in one example obscurely spotted grey. Antennae ♂ minutely ciliated. Forewings termen straight, ♂ rather oblique, ♀ oblique; whitish, irregularly speckled fuscous and dark fuscous; costa obliquely strigulated dark fuscous; sometimes a short fine dark dash in disc about end of cell; an almost terminal irregular dark line more or less expressed: cilia grey-whitish, obscurely barred fuscous and dark fuscous irroration. Hindwings grey-whitish or whitish-grey, in one ♀ grey; cilia whitish.

Upolu, Apia, Malololelei; Savai'i, Tuasivi; February to June, 8 ex. A specimen with forewings whitish-ochreous, with blackish dots on margins, some slight ochreous-grey suffusion on median third of dorsal area and a few blackish strigulae in disc anteriorly, apparently belongs to the same species.

19. *Polychrosis botrana* Schiff.

Upolu, Malololelei, 2,000 feet, July; 1 ex. Widely distributed in Europe, Africa, and Australia, imported with the grape-vine, of which the larva is a pest, though it will also feed on several other plants. Also an example from the Ellice Islands; the insect is therefore probably established in other Pacific islands, but is inconspicuous and generally overlooked.

20. *Polychrosis xylistis* Low.

Upolu, Apia, Malololelei, 2,000 feet; Tutuila, Pago Pago; June, September, December; 2 ex., also 3 in Bishop Museum. Described from a type from Queensland, which is presumably its home; probably introduced into Samoa with its food-plant, but habits at present unknown.

21. *Articolla prospera* Meyr.

Upolu, Malololelei, 2,000 feet, April, June; 3 ex. Occurs in India and Australia; habits unknown, but doubtless artificially introduced into Samoa.

22. *Argyroploce aprobola* Meyr.

Tutuila, Pago Pago, December; 1 ex. Originally described from Tonga in 1886, but since found in India, Ceylon, Seychelles, Tonkin, Java, Formosa, New Guinea, and Australia; probably Indian in origin; the larva is polyphagous on various cultivated trees and shrubs (*Mangifera*, *Cassia*, *Lantana*, *Nephelium*, etc.), with which it is introduced. Recently I have seen specimens from the remote island of Rapa.

23. *Argyroploce agathopis*, n. sp.

♀ 12–13 mm. Head whitish-grey-ochreous. Palpi whitish-ochreous, second joint with indistinct grey bar. Thorax in one specimen ochreous-whitish, in the other greyish with ochreous tegulae, crest sprinkled dark fuscous. Forewings termen slightly rounded, somewhat oblique; ochreous-whitish, irregularly striated or marbled pale blue-grey, but leaving ochreous-whitish striae on margins of dark markings; markings brown or fuscous, somewhat mixed and partially edged dark fuscous; rather narrow irregular oblique fasciae near base and before middle variably developed; a moderate rather oblique fascia from costa beyond middle reaching  $\frac{3}{4}$  across wing, its apex prominent posteriorly; a spot on costa beyond this, one at apex, and two small spots between these; a subtriangular blotch on dorsum before tornus; a rather inwards-oblique fascia from termen above tornus expanded into a rounded or irregular blotch in disc: cilia ochreous-whitish or ochreous, fuscous on markings. Hindwings grey; cilia whitish-grey.

Upolu, Malololelei, 2,000 feet, April, June; 2 ex. Allied to the green *mniochlora* group.

## GELECHIADAE \*

24. *Pityocona porphyroschia*, n. sp.

♂♀ 8–10 mm. Head glossy ochreous-whitish, crown sometimes tinged grey centrally. Palpi ochreous-whitish, second joint with base sprinkled fuscous and suffused dark fuscous subapical band, terminal joint with dark fuscous supramedian band, base and tip sometimes dark grey. Thorax whitish-ochreous. Forewings narrowed posteriorly, obtuse-pointed; 6 out of 8 near base; grey, minutely strigulated or speckled darker, with prismatic reflections, costal area broadly suffused deep purplish; a more or less developed streak of pale ochreous suffusion along fold from base to plical stigma, and another usually less marked connecting discal stigmata and extended to apex; costa minutely dotted ochreous-whitish except towards apex, a larger dot at  $\frac{4}{5}$ ; a small black dot beneath costa near base; a large black dot on fold midway between plical stigma and base, one beneath costa at  $\frac{2}{5}$ , and three forming stigmata, discal rather

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\* In deference to the author, the name of this family, although it does not conform to Article 4 of the *International Rules of Zoological Nomenclature* has been allowed to stand as written.—E. E. Austen.

approximated, plical obliquely before first discal: cilia ashy-grey. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, Vailima, April, December; 6 ex.

25. *Aristotelia transfilata*, n. sp.

♀ 8 mm. Head, thorax rather dark bronzy-fuscous. Palpi dark fuscous, pale-speckled, second joint expanded with scales towards apex, apical edge ochreous-whitish, terminal joint rather stout, as long as second. Forewings 6 separate; dark bronzy-fuscous; first discal stigma small, obscurely darker, second forming a slightly transverse blackish dot, adjoining which posteriorly a fine irregular ochreous-whitish line crosses wing: cilia rather dark fuscous. Hindwings rather dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, March; 1 ex.

*Anastreblotis*, n. g.

Head smooth-scaled; ocelli minute, posterior; tongue developed. Antennae  $\frac{2}{3}$ , scape short, thickened with scales, without pecten. Labial palpi long, recurved, second joint rather thickened with smooth scales, terminal joint as long as second, moderate, acute. Maxillary palpi very short, filiform, appressed to tongue. Posterior tibiae clothed with rough hairs above. Forewings 1♂ furcate, 2 from  $\frac{5}{6}$ , 3 from towards angle, 4 from angle, 6 and 8 stalked, 7 absent, 9 nearly approximated, 10 from towards angle, 11 from beyond middle. Hindwings under 1, trapezoidal, termen slightly sinuate beneath apex, cilia 1; without cubital pecten; 2 from before middle of cell, 3 from towards angle, 4 and 5 connate from angle, 6 and 7 rather approximated towards base.

Probably allied to the *Epithectis* group, but very distinct by reason of the peculiar neuration of the hindwings.

26. *Anastreblotis calycopa*, n. sp.

♀ 17 mm. Head shining iridescent whitish-grey, sides mixed darker grey. Palpi grey, apex of joints whitish. Thorax light shining grey, anterior and postmedian bands suffused dark grey. Forewings elongate, rather narrow, costa gently arched, apex obtuse-pointed, termen extremely obliquely rounded; shining grey-whitish with bluish iridescence, irregularly sprinkled grey; markings cloudy, dark purple-fuscous; a narrow suffused basal fascia; a moderate spot on costa at  $\frac{1}{4}$ , a smaller spot beneath and rather beyond this, and beneath these above dorsum an elongate pointed-oval ring, of which posterior extremity

rests on fold and represents plical stigma ; an ill-defined transverse blotch from middle of costa reaching half across wing, its lowest portion representing a large first discal stigma, obliquely beyond plical ; posterior half of wing irregularly suffused grey except in disc, second discal stigma well-marked, a streak of grey suffusion between discal stigmata but not touching them ; a marginal series of dark fuscous dots round posterior part of costa and termen to before tornus : cilia pale whitish-grey. Hindwings light grey ; cilia paler.

Upolu, Malololelei, 2,000 feet, July ; 1 ex.

***Syngenomictis*, n. g.**

Head with appressed scales ; ocelli posterior ; tongue developed. Antennae  $\frac{3}{4}$ , scape elongate, with slight but well-marked pecten. Labial palpi very long, recurved, second joint with rough scales beneath, distinctly furrowed, terminal joint longer than second, slender, acute. Maxillary palpi very short, filiform, appressed to tongue. Ovipositor long, projecting. Forewings 1*b* furcate, 2 from about  $\frac{3}{4}$ , 3-5 nearly parallel, 7 and 8 out of 6, 7 to costa, 11 from beyond middle. Hindwings  $\frac{3}{4}$ , trapezoidal, termen slightly sinuate beneath apex, cilia nearly 1 ; 2 from  $\frac{3}{4}$  of cell, 3-5 separate but somewhat approximated towards base, 6 and 7 long-stalked.

Belongs to group of *Epithectis*.

**27. *Syngenomictis aenictopa*, n. sp.**

♀ 18 mm. Head, thorax whitish-ochreous, shoulders dark fuscous. Antennae ochreous-whitish, scape and base of stalk dark fuscous. Palpi ochreous-whitish, basal half of second joint dark fuscous, terminal joint lined blackish. Forewings elongate, rather narrow, costa gently arched, apex obtuse-pointed, termen extremely obliquely rounded ; whitish-ochreous ; a dark fuscous costal line from base to  $\frac{3}{4}$ , posteriorly slightly thickened and suffused beneath ; plical and second discal stigmata small, dark fuscous ; some fuscous suffusion towards apex, a short darker fuscous line along apical part of costa, extreme terminal edge fuscous : cilia whitish-ochreous, on termen tinged fuscous, above apex a patch of fuscous suffusion. Hindwings light grey ; cilia whitish-grey.

Upolu, Apia, June ; 1 ex. Also 1 ex. seen from New Hebrides.

**28. *Platyedra gossypiella*, Saund.**

Upolu, Aleipata, Lalomanu, November ; 1 ex. The notorious pest of the cotton-plant.

29. *Phthorimaea heliopa*, Low.

Rebel (Mitt. Naturh. Mus. Hamb. xxxii, 154) describes as *Gelechia (Lita) sp.*, without recognising or naming it, an insect which is unquestionably this species; the collection submitted to him was mostly made at light in Apia. No example exists in the material in my hands, but the species is a well-known pest of the tobacco-plant, and practically certain of introduction; it is now generally distributed in India, the Malayan Islands, Australia, and South Africa.

30. *Thyrsostoma nephelochtha*, n. sp.

♂♀ 11–13 mm. Head, thorax pearly-whitish. Antennae ♂ with scape very long and stout, also a somewhat thickened superscape,  $\frac{2}{3}$  of scape, ciliations under 2. Palpi whitish, second joint ♂ with long expansible whitish hairpencil projecting from furrow beneath, terminal joint as long as second, thickened. Forewings very narrow; shining whitish, tinged ochreous on edge of markings; markings grey, obscure; rather thick irregular suffused streaks along costa and dorsum throughout, confluent at apex, connected by rather inwards-oblique moderate fasciae towards base, in middle, and towards apex, but median fascia sometimes interrupted in disc: cilia whitish-grey. Hindwings pale grey; cilia whitish-grey.

Upolu, Malololelei, 2,000 feet, Vailima, April, June, November, December; 5 ex. The structure termed above the superscape I have elsewhere treated as an elongated joint, but it is apparently rather three or four joints soldered together.

31. *Thyrsostoma triphona*, n. sp.

♂ 11 mm. Head, thorax silvery-whitish. Antennal scape long and stout, superscape somewhat longer than in *nephelochtha*,  $\frac{3}{4}$  of scape, ciliations long (3). (Palpi missing.) Forewings very narrow; grey-whitish; markings obscure, grey; three incomplete broad rather inwards-oblique fasciae, first towards base, not reaching dorsum and hardly costa, second antemedian, not reaching costa, considerably narrowed and more oblique inwards towards dorsum, third reduced to a thick streak above tornus running into a transverse spot just before apex and sending a longitudinal line to costa near, similar lines from first and second fasciae run parallel with this beneath costa to near apex: cilia whitish-grey. Hindwings grey; cilia pale grey.

Upolu, Vailima, October; 1 ex. The difference in the antennal ciliations

shows that this is a good species and not a variety of preceding ; it is unfortunate, however, that the palpi are missing, as these would probably have given further evidence, as usual in this genus.

### 32. *Thiotricha oxyopis*, n. sp.

♂♀ 8 mm. Head silvery-white. Palpi white. Thorax silvery-white, faintly yellowish-tinged posteriorly. Forewings narrow, more narrowed posteriorly, costa faintly sinuate, termen obliquely rounded ; shining yellow-whitish, posteriorly tinged greyish, in one example a fine grey subcostal line from base to orange blotch ; sometimes an acute arrowhead-shaped grey mark about fold near extremity ; an orange or greyish-orange blotch occupying apical fifth, preceded by grey suffusion in disc, sometimes edged grey on costa with a white dot at its anterior angle, on termen edged by a silvery-white streak edged grey anteriorly or two white spots, in one specimen the lower bearing a blackish dot : cilia whitish-grey, a round black basal spot at apex surrounded by silvery-grey suffusion, blackish-grey basal and median shades more or less expressed. Hindwings light grey ; cilia grey-whitish, at apex whiter, with two short blackish bars.

Upolu, Malololelei, 2,000 feet, November, 1 ex. ; also 2, Apia, September, bred from portable cases found on leaf of *Bacca* (? *Baeckia*) (*Swezey*) (Bishop Museum) ; larval case cylindrical, dark brown, apparently made of gelatinous silk, slightly granular, without attached materials ; all the known larvae of this genus are case-feeders, an unusual feature in this family. Nearest *Th. clidias* ; a quite distinct species, but variable in detail.

### 33. *Thiotricha strophiacma*, n. sp.

♂ 9 mm. Head, palpi, thorax silvery-white. Forewings elongate, termen obliquely rounded, apex contorted and produced into a slender twisted ciliated filament ; shining white ; a slight oblique fuscous mark towards dorsum in middle of wing, a dot near dorsum at  $\frac{3}{4}$ , whence a faint short very fine line is directed towards apex, and a dot on tornus ; some pale brownish suffusion towards costa posteriorly ; a black dot preceding apical projection : cilia white, on upper part of termen metallic. Hindwings grey-whitish ; cilia white.

Upolu, Apia, March ; 1 ex. This specimen is partly sprinkled with black atoms apparently due to smoke.

34. *Thiotricha symphoracma*, n. sp.

♀ 9 mm. Head, palpi, thorax shining white. Forewings elongate, termen obliquely rounded, apex with upturned projection of long cilia; shining white; a slight oblique fuscous mark towards dorsum at  $\frac{1}{3}$ ; a dark fuscous line from a subdorsal dot beyond middle to apex; a very oblique dark fuscous streak from costa at  $\frac{4}{5}$ ; a pale ochreous triangular spot on costa before apex edged dark fuscous anteriorly; a round black apical dot; a fuscous dot on tornus: cilia white, on upper part of termen silver-metallic towards base, in apical projection two blackish hooks. Hindwings light grey; cilia whitish-grey, at apex a blackish basal dot and outer black bar.

Upolu, Malololelei, 2,000 feet, June; 1 ex.

35. *Thiotricha anarpastis*, n. sp.

♂♀ 10-11 mm. Head, palpi, thorax shining white. Forewings elongate, narrowed posteriorly, apex pointed, with upturned projection of long cilia, termen sinuate, oblique; shining white; a moderate streak of pale greyish-ochreous suffusion along costa from base to an oblique grey spot at  $\frac{3}{4}$ , in ♀ fuscous throughout; in ♀ a fuscous streak along dorsum, in ♂ represented by faint pale greyish-ochreous suffusion or wholly absent; a long oblique dark fuscous streak from costa at  $\frac{4}{5}$ , preceded by yellow-whitish or grey-whitish suffusion, and followed by yellow-ochreous suffusion, its apex margined beneath by a spot of yellow-ochreous suffusion and separated by a silvery-white dot from a black praeapical dot; an arrowhead-shaped dark grey or dark fuscous mark on dorsal end of fold, upper barb produced as a more or less extended line towards apex; terminal margin sometimes suffused whitish-ochreous: cilia light greyish, on apical projection white with two blackish hooks, beneath apex a silver-metallic patch. Hindwings and cilia whitish-grey, at apex a grey basal dot in cilia and blackish posterior bar.

Upolu, Malololelei, 2,000 feet, Apia, Vailima, Mulifanua, October to December; 5 ex.

36. *Thiotricha crypsichlora*, n. sp.

♂ 9 mm. Head pale shining prismatic greyish-ochreous. Antennal cilia-tions 5. Palpi whitish-ochreous, anteriorly suffused grey. Thorax grey. Forewings narrow, apex pointed, termen very obliquely rounded; dark bronzy-fuscous; three very irregular somewhat oblique ochreous-whitish streaks from

anterior half of dorsum, reaching half across wing; a rather large irregular ochreous-whitish spot on dorsum before tornus: cilia pale grey, round apex suffused dark grey towards base. Undersurface of forewings ochreous-whitish, apical  $\frac{2}{5}$  dark grey. (Hindwings and abdomen missing.)

Upolu, Malololelei, 2,000 feet, November; 1 ex. Notwithstanding the imperfect condition of the unique specimen, which has lost hindwings and abdomen, it seems desirable to describe this distinct insect; by the structure of the remaining parts it can only be referred here.

### 37. *Idiophantis callicarpa*, n. sp.

♀ 11 mm. Head glossy light grey. Palpi grey-whitish, exterior edge grey. Thorax light violet-grey. Forewings termen deeply excavated beneath linear upturned apical prominence; violet-grey, paler towards costa; an obtusely angulated whitish grey-edged subterminal streak, preceded by an orange streak, area beyond it orange on upper half and ochreous-yellow on lower, costal edge suffused grey-whitish towards apex, a small golden-metallic spot on middle of termen: cilia on apex and upper part of termen dark grey, on lower part light yellow. Hindwings light grey; cilia pale yellowish-grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex.

### *Eustalodes*, n. g.

Head with appressed scales, sidetufts slightly raised; ocelli inferior; tongue developed. Antennae  $\frac{4}{5}$ , in ♂ simple, scape elongate, without pecten. Labial palpi second joint much thickened with scales, terminating in a strong pointed projecting tuft, terminal joint ♂ obsolete, ♀ longer than second, thickened with scales posteriorly above middle, acute. Maxillary palpi short, slightly thickened, appressed to tongue. Posterior tibiae rough-scaled above. Forewings 1*b* furcate, 2 from towards angle, 4 and 5 short-stalked, 7 and 8 stalked, 7 to costa, 11 from middle. Hindwings 1, trapezoidal, narrowed posteriorly, apex obtuse, termen rounded, cilia  $\frac{3}{4}$ ; without cubital pecten; 2 from  $\frac{2}{3}$ , 3 and 4 separate, approximated from angle; 5 somewhat approximated, 6 and 7 remote, parallel.

Allied to *Anarsia*, from which it is distinguished by the parallel veins 6 and 7 of hindwings.

### 38. *Eustalodes oenosema*, n. sp.

♂ 14 mm. Head whitish-ochreous. Palpi ochreous-whitish, suffused fuscous externally towards base, and tinged grey towards apex. Thorax whitish-



ochreous with faint pinkish tinge. Forewings elongate, widest in middle, apex obtuse, termen very obliquely rounded; ochreous-whitish with slight rosy tinge, irrorated light brown except on anterior half of costa; an oblique-triangular rosy-fuscous spot on middle of costa, and four or five suffused oblique strigulae between this and apex; a rosy-brownish linear dot with two or three black scales just above dorsum before tornus, and one or two others in disc posteriorly; a slight blackish dot on termen beneath apex: cilia ochreous-whitish, a round apex whiter and speckled light brownish, with brownish median shade. Hindwings grey, thinly scaled and subhyaline towards base, apex suffused light brownish; cilia whitish-grey. Forewings beneath with dense fringe of long dark grey hairs rising from upper margin of cell from near base to beyond middle, obliquely appressed to upper part of wing.

♀ 14 mm. Head whitish-ochreous. Palpi dark brown, apical margin of second joint broadly whitish sprinkled grey, terminal joint whitish with three dark brown bands, apex dark grey. Thorax light greyish-rosy becoming whitish towards shoulders, edge of shoulder dark fuscous. Forewings light greyish-rosy slightly speckled dark ferruginous, towards anterior half of costa suffused whitish, on posterior half of wing slightly sprinkled whitish; a cloudy spot of grey suffusion on dorsum at  $\frac{1}{4}$ ; an oblique semioval spot of dark ferruginous and black irroration on middle of costa, a similar roundish spot in middle of disc, and a smaller spot somewhat before and beneath this; two very slight marks of similar irroration preceding costal spot, three stronger oblique marks beyond it, and a small spot on dorsum before tornus; one or two minute linear blackish marks in disc about  $\frac{4}{5}$ , and one on termen beneath apex: cilia greyish, darker basal and postmedian lines. Hindwings light violet-grey, paler and semihyaline anteriorly; cilia pale greyish, round apex paler and slightly rosy-tinged.

Upolu, Malololelei, 2,000 feet, June; 2 ex.

### 39. *Chelaria trachymorpha*, n. sp.

♀ 14 mm. Head grey-whitish, sidetufts grey. Palpi dark fuscous, whitish-speckled, second joint broadly expanded with scales towards apex above, and with dense rough projecting scales throughout beneath, terminal joint with long rough obliquely projecting scales posteriorly except at apex. Thorax whitish-grey. Forewings 6 separate; grey, minutely whitish-speckled; a subcostal scaletuft preceding a semioval brown blotch edged blackish suffusion occupying costa from  $\frac{1}{3}$  to beyond middle, beyond this irregular blackish and

dark brown suffusions occupying costal half to apex ; a large scaletuft mixed blackish above dorsum towards middle, and another above tornus ; a sinuate silvery line crossing wing towards apex, and another round apical edge, terminal area between these light ochreous with two blackish dashes : cilia on costa dark fuscous with pale ochreous subbasal line, on termen whitish-ochreous with tips fuscous. Hindwings rather dark grey ; cilia grey, tinged ochreous towards base.

Upolu, Malololelei, 2,000 feet, April ; 1 ex.

#### 40. *Stoerberhinus testacea* Butl.

Upolu, Apia, Vailima ; Savai'i, Tuasivi ; Tutuila (Bishop Museum) ; April to July, November ; 11 ex. in all. Doubtless common generally ; occurs also in Fiji, New Hebrides, Hawaii, Marquesas, Rapa, and apparently throughout the Pacific islands, but not known elsewhere, therefore indigenous in the region and spread through it by man. Larva on dead grass, probably also on other dry vegetable refuse.

### AGONOXENIDAE

#### 41. *Agonoxena argaula* Meyr.

Upolu, Apia, September (*Swezey*) ; 1 ex. (Bishop Museum). Described from Fiji (*Exot. Micr. ii, 472*), and also seen from the Ellice Islands ; the larva feeds on leaves of coconut, and the species is doubtless transported by man. Apparently the males are normally without the white streaks on the forewings, though the females possess them.

### COSMOPTERYGIDAE

#### 42. *Cosmopteryx mimetis* Meyr.

Upolu, Malololelei, 2,000 feet, Apia, January, April, May, September ; 6 ex. Also 2 in Bishop Museum (*Swezey*). Occurs also in Fiji, New Guinea, Eastern Australia, Borneo, Tonkin, India, Egypt, Seychelles, Mauritius, Rodriguez, Bermuda, and South America. Larva mining in leaves of *Cyperus rotundus*, a very widely distributed plant, but the insect is probably artificially introduced. There are, however, endemic species of *Cosmopteryx* in Fiji and Rapa, and most likely in Samoa also.

43. *Labdia argyropla*, n. sp.

♂♀ 7-8 mm. Head shining ochreous-whitish, crown more or less tinged grey, eyes crimson. Palpi white, anterior edge of terminal joint dark grey. Antennae grey, ♂ becoming white towards base. Thorax light grey, shoulders silvery, in ♂ a lateral ochreous-whitish expansible hairpencil from behind hindwings lying along abdomen. Abdomen grey, in ♂ two basal segments pale orange, anal tuft and venter ochreous-whitish. Posterior legs whitish, tibiae metallic-blue above on basal half with an erect acute black tuft at end of this area and a blackish ring almost at apex, tarsi blackish-grey with three apical joints white. Forewings apex acute, produced; black; basal third orange on costal half, apparently silvery-metallic on dorsal half to near fascia; a blue-metallic fascia at  $\frac{2}{5}$ ; in ♀ an orange dorsal spot in middle of wing; a broad orange fascia at  $\frac{2}{3}$ , its anterior margin occupied by a blue-metallic black-edged spot except on costa, its posterior margin edged black and followed on costa by a small white spot, on dorsal half by a blue-metallic spot; in ♀ the orange colour projects between these spots as an attenuated streak to apex: cilia grey, at apex a suffused white spot. Hindwings and cilia light grey, in ♀ darker.

Tutuila, Pago Pago; Savai'i, Fagamalo; Upolu, Apia, Malua; July, November, December; 4 ex. This might be mistaken for a *Cosmopteryx*. The difference in the sexes is considerable, the orange in the ♀ being so much extended as to appear the ground colour; but although all the examples are from different localities, I have no doubt that they belong to the same species.

44. *Labdia irigramma*, n. sp.

♂♀ 11 mm. Head orange, face golden-whitish, eyes crimson. Antennae white, basal half dotted blackish-grey, on apical half a broad band and two narrow rings blackish-grey. Palpi white, base tinged orange. Thorax orange. Forewings long-pointed; orange; extreme costal edge white; a fine brilliant iridescent green-blue line at first on base of costa then obliquely deflected to about  $\frac{1}{4}$ ; a similar rhomboidal spot on middle of costa, or subcostal dot with some slight irroration beneath costa before middle: cilia orange to whitish, beneath tornus tinged grey. Hindwings rather dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, November; 2 ex.

45. *Labdia aeolochorda*, n. sp.

♀ 11 mm. Head, thorax orange, face whitish-golden, eyes crimson.

Antennae whitish, basal  $\frac{3}{5}$  dotted dark fuscous, apical portion with three grey bands. Palpi ochreous-white. Forewings orange; a slender bright prismatic-blue line from base beneath costa runs straight to apex, interrupted at  $\frac{1}{4}$ , its upper edge with a slight prominence in middle edged with a very few black specks; a short fine similar line on fold towards base, a longer one beneath interruption of upper line, and a third on end of fold; two small suffused light yellowish spots on dorsum towards middle: cilia orange, on tornal area grey except towards base. Hindwings and cilia dark grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex. Also one from Apia, September (*Swezey*) in Bishop Museum. Group of *cerannia*.

#### 46. *Labdia deianira*, n. sp.

♀ 10 mm. Head whitish, eyes crimson. Palpi whitish, terminal joint with dark grey supramedian band and indistinct submedian ring. Thorax whitish, tegulae orange except shoulders. Forewings apex produced, acute; basal (larger) half orange-red, three violet-grey streaks, first from near base along costa to end of red area, second rising out of this towards base, running above middle to end of red area but interrupted before its middle and connected with first by bar beyond the interruption, third along fold from base to near end of red area but turned up to join apex of second and connected with second before interruption, an irregular whitish streak along dorsum from base to near middle of wing, its apex confluent with third grey streak; posterior area pale ochreous-yellow, a short fine dash projecting into second grey streak, on dorsal half a silvery bar separating the colours with a slender dorsal projection to tornus and followed in disc by a minute black dot, on costa minute black strigulae surrounded with whitish just beyond red area and at  $\frac{2}{3}$ : cilia pale ochreous-yellowish. Hindwings light grey; cilia grey-whitish.

Tutuila, Pago Pago, December; 1 ex. Allied to the Fijian *L. clytemnestra*, but without the blackish specks, and specially characterised by the white thorax; in my description of *L. clytemnestra*, the corresponding dorsal projection to tornus is unfortunately misprinted "disca."

#### 47. *Labdia halticopa*, n. sp.

♂♀ 10-12 mm. Head pale golden-orange, eyes crimson. Palpi whitish, second joint suffused pale golden, terminal joint with pale golden submedian band tinged grey anteriorly and blackish-grey subapical band. Antennae white

ringed dark fuscous to above middle, then white with a band and two rings blackish. Thorax orange, a whitish dorsal stripe. Forewings orange; markings white, partially edged scattered black scales; an irregular line across base; a sinuate oblique line running from costa at  $\frac{1}{5}$  to near dorsum, from this in disc rises a line upcurved to near costa, then descending to join in disc a line which rises near dorsum in middle of wing, is upcurved to disc, and descends to near tornus; a short bent oblique line from costa at  $\frac{2}{3}$  sometimes touching curve of preceding, and a short mark from costa at  $\frac{5}{6}$ , these two only dark-edged posteriorly, and followed by more or less grey suffusion towards termen or apex: cilia whitish, towards base tinged orange and sometimes mixed dark grey on upper part of termen, towards tornus tinged grey. Hindwings grey; cilia pale grey, at apex tinged whitish.

Upolu, Malololelei, 2,000 feet, April, November; 3 ex.

#### 48. *Labdia eugrapta*, n. sp.

♀ 10–12 mm. Head pale orange, face white, eyes crimson. Antennae white, basal  $\frac{3}{5}$  dotted grey, apical portion with three grey bands, base and apex of scape blackish. Palpi white, base and median ring of second joint, and base and two broad bands of terminal joint blackish. Thorax orange, shoulders tinged white. Forewings orange; markings pale ochreous-yellow to white, partially edged black irroration; a narrow very irregular basal fascia; an oblique irregular-edged fascia about  $\frac{1}{4}$ , narrow beneath and sometimes not reaching dorsum, triangularly dilated towards costa; a slender median fascia acutely angulated in middle, angle sometimes emitting a projection; long very oblique slightly curved attenuated streaks from costa at  $\frac{3}{5}$  and  $\frac{3}{4}$ , a streak from tornus anteriorly swollen along lower part of termen connected with first of these by a patch of blackish-grey suffusion; apical projection black: cilia pale lilac-grey, on costa white, on termen beneath base of apical projection a white wedge-shaped basal mark edged black externally. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, Vaea, 1,200 feet, Apia; Tutuila, Pago Pago; April, June, December, 4 ex.

#### 49. *Labdia leucoxantha*, n. sp.

♀ 10–11 mm. Head white, eyes crimson. Antennae white, basal  $\frac{3}{5}$  dotted grey, apical portion with three grey bands, scape wholly white. Palpi white, terminal joint with two dark grey bands. Thorax white with three posterior

orange spots or marks. Forewings orange; markings white, slightly and partially edged with black scales in disc; an irregular-edged oblique basal fascia; an irregular curved-oblique fascia at  $\frac{1}{4}$ , widest on costa; a narrow acutely angulated median fascia, sending from angle a slightly curved streak to tornus; a very oblique streak from costa about  $\frac{2}{3}$  to middle of termen, enclosing a short black line from costa; apical projection black, preceded on costa by a short inwardly oblique black mark edged white on both sides: cilia white, a short curved black shade from base of apical projection beneath, tornal cilia tinged yellowish. Hindwings grey; cilia pale grey.

Upolu, Mulifanua, November; 1 ex. Also 3 from Ellice Islands (Nui and Funafuti), September.

50. *Labdia internexa*, n. sp.

♀ 10 mm. Head pale orange, face white. Antennae white, basal  $\frac{3}{5}$  dotted dark fuscous, apical portion with three dark fuscous bands, scape wholly white. Palpi white, second joint with basal third and subapical ring grey-yellowish, terminal joint with yellowish submedian and blackish subapical band. Thorax orange. Forewings orange; markings ochreous-whitish, mostly edged black scales; a slender basal fascia; four narrow irregular rather oblique fasciae, a slender bar from middle of first to costal end of second, second and third joined by a slender upward bar in disc, fourth running to middle of termen but reduced on its lower half to black posterior margin; some blackish-grey suffusion on costa before first of these, and subcostal spots of blackish-grey suffusion beyond first and second: cilia whitish-orange, base orange, on middle of termen with some dark grey scales. Hindwings dark grey; cilia grey.

Upolu, Malololei, 2,000 feet, June; 1 ex. This and the three preceding species are allied together, and the rather complex markings may probably vary somewhat in detail, but the palpi and antennae afford reliable characters.

51. *Labdia dicarpa*, n. sp.

♀ 7 mm. Head shining prismatic whitish-grey, face whitish. Antennae whitish-grey. Palpi whitish, terminal joint anteriorly suffused grey. Thorax grey. Forewings dark grey; irregular-edged pale ochreous-yellowish spots on dorsum near base and before tornus reaching about half across wing: cilia grey. Hindwings light grey, margins darker, apical third suffused dark grey; cilia light grey.

Upolu, Malololei, 2,000 feet, April; 1 ex., with one forewing missing.

52. *Labdia gypsodelta*, n. sp.

♂♀ 10 mm. Head, thorax dark grey, face whitish, eyes crimson; thorax ♂ with expansible tuft of very long whitish hairs from beneath forewings. Palpi whitish, terminal joint suffused grey anteriorly. Forewings rather dark violet-grey; stigmata round, obscurely darker, faintly whitish-ringed, plical slightly beyond first discal; a triangular whitish spot on middle of costa, its apex just beyond first discal and tending to meet an irregular subcrescentic smaller whitish spot in disc rather beyond these: cilia grey. Hindwings and cilia grey.

Upolu, Apia, Vailima, March, June; 2 ex.

53. *Labdia rhextaula*, n. sp.

♂♀ 9–10 mm. Head, thorax shining whitish-yellow, tegulae dark fuscous. Palpi white, second joint grey except towards apex. Forewings dark fuscous; a broad whitish-yellow costal streak from base to beyond middle, its apex suffused and some slight suffusion beyond this; a broad whitish-yellow streak from base along dorsum and termen to near apex, more or less completely interrupted by an irregular oblique bar of groundcolour about middle of wing, apex pointed: cilia light grey, on termen base suffused whitish-yellow. Hindwings rather dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, June, November; 2 ex.

54. *Labdia leptonoma*, n. sp.

♂ 7 mm. Head, thorax whitish, a central streak of brownish suffusion. Antennae whitish ringed brownish. Palpi whitish. Forewings brownish; dorsal area to fold whitish; costal edge and all veins marked in distinct whitish lines: cilia whitish. Hindwings pale grey; cilia whitish.

Upolu, Apia, March; 1 ex.

55. *Labdia triformis*, n. sp.

♂♀ 8–10 mm. Head shining white, eyes crimson. Antennae ochreous-whitish. Palpi whitish, anterior edge of terminal joint more or less grey. Thorax grey, a broad white dorsal stripe, in ♂ an expansible tuft of very fine long whitish hairs from beneath forewings. Forewings fuscous; costal edge white from base to a triangular spot near apex, with attached narrow-elongate ochreous-whitish blotch before middle, and a shorter one beyond middle; a white streak along dorsum from base to about  $\frac{2}{3}$  of wing, hardly protuberant posteriorly, there

angulated partly in cilia and running obliquely and attenuated along termen to beneath antepical spot: cilia light grey, two or three indistinct whitish basal dots on upper part of termen. Hindwings and cilia grey.

Upolu, Vailima, Malololelei, 2,000 feet, June; 3 ex. Also 1 from Tutuila (*Judd*) in Bishop Museum.

56. *Labdia properans*, n. sp.

♂ 9 mm. Head, antennae, palpi white, eyes crimson. Thorax white, tegulae dark fuscous. Forewings dark fuscous; a rather broad white streak along costa from base to  $\frac{1}{4}$ , thence leaving costa and finely attenuated to disc above middle; an oblique ochreous-white blotch from costa somewhat beyond middle; a triangular whitish-ochreous spot on costa towards apex partly in cilia; a rather thick ochreous-white streak along dorsum from base to tornus, rather protuberant before extremity; a white apical dot: cilia grey. Hindwings and cilia grey.

Tutuila, Pago Pago, December; 1 ex.

57. *Labdia hastifera* Meyr.

Upolu, Apia; Savai'i, Fagamalo; Tutuila; February, March, November; 9 ex. in all. Also common in Fiji, where the type was obtained (*Exot. Micr.* ii, 318), and in Tonga.

58. *Labdia promacha* Meyr.

Upolu, Malololelei, 2,000 feet, Vailima, February, July, October; Savai'i, Tuasivi; 5 ex. Also occurs in India, Ceylon, Java, Formosa, and East Australia. Very like *hastifera*, but immediately separated by the unringed (at most dotted) antennae. Larva feeding in stems of *Cajanus* and probably other LEGUMINOSAE, with which it is no doubt artificially transported, but presumably a refuse-feeder.

59. *Labdia holopetra*, n. sp.

♂♀ 7 mm. Head dark bronzy-grey, face whitish. Palpi ochreous-white, terminal joint suffused grey. Antennae pale grey. Thorax bronzy-grey. Forewings unicolorous glossy rather dark grey: cilia ochreous-grey, paler towards tips. Hindwings grey; cilia light grey.

Upolu, Malololelei, 2,000 feet, June; 3 ex. Nearly approaches the Fijian *L. petroxesta*, but in that species the head is pale ochreous, except the centre of the crown.



60. *Persicoptila aesthetica*, n. sp.

♂♀ 12-15 mm. Head silvery-whitish, eyes crimson. Palpi whitish. Thorax ochreous-whitish. Posterior tibiae white with median and posterior bars in ♂ faintly pinkish-tinged, in ♀ distinct, pinkish-ochreous, above with similarly coloured median and larger postmedian triangular tufts tipped dark grey, a dark grey apical ring, in ♂ a large and very long expansible whitish hairpencil from base above reaching to end of basal joint of tarsus. Forewings ♂ pale pinkish-ochreous, with faint greyish-ochreous reflections, ♀ yellow-ochreous suffused rosy-pinkish; a roundish cloudy grey spot in disc before middle and another near or resting on dorsum directly beneath it or slightly anterior, sometimes nearly meeting; indistinct grey dots on tornus and in disc at  $\frac{2}{3}$  sometimes perceptible; a cloudy grey transverse bar towards apex, preceded by whitish suffusion more distinct in ♀: cilia whitish-ochreous. Hindwings whitish-grey; cilia whitish-ochreous.

Upolu, Apia, Vailima, Aleipata, Lalomanu, March to June, August, November; 12 ex. Also 2 from Tutuila, "leaf-miner on *Ipomoea*" (*Swezey*), in Bishop Museum. Nearest *P. heroica* of New Hebrides, of which the ♂ has a similar hairpencil.

61. *Persicoptila eurytricha*, n. sp.

♂ 13 mm. Head ochreous-whitish, eyes crimson. Palpi whitish. Thorax pale ochreous. Posterior tibiae whitish with large tuft of long rough light rose-pink hairscales mixed and mottled grey extending from near base almost to apex, a dark grey apical ring. Forewings pale ochreous, suffusedly sprinkled grey, or wholly suffused grey except patches on costa at base and  $\frac{2}{3}$ , and at apex; in the darker specimen a roundish cloudy darker grey spot in middle of disc and another beneath and rather beyond it (first discal and plical stigmata), in the other these are less distinctly indicated; second discal stigma small, dark grey; a cloudy dark grey transverse line preceding apex in pale area: cilia whitish-ochreous, tinged grey towards tornus. Hindwings whitish-ochreous, terminal edge sometimes tinged grey; cilia whitish-ochreous.

Upolu, Malololelei, 2,000 feet, Apia, April, May; 2 ex.

62. *Proterocosma triplanetis* Meyr.

Upolu, Malololelei, 2,000 feet, Vailima; Savai'i, Fagamalo; April, June, November, December; 4 ex. Described (Trans. Ent. Soc. Lond. 1886, 293)

from Tonga, and also occurs in Fiji and New Hebrides, doubtless artificially spread; larva probably a refuse-feeder.

***Endograptis*, n. g.**

Head smooth; ocelli posterior; tongue developed. Antennae  $\frac{4}{5}$ , in ♂ rather stout, simple, scape moderately elongate, without pecten. Labial palpi long, recurved, smooth-scaled, terminal joint as long as second, acute. Maxillary palpi rudimentary. Posterior tibiae rough-scaled above. Forewings beneath with fulvous scaletuft on lower angle of cell; 2 from angle, 5 absent, 6 and 8 stalked, 7 absent, 11 from  $\frac{4}{5}$  of cell. Hindwings  $\frac{3}{4}$ , lanceolate, cilia 2; 2-5 parallel, 6 and 7 approximated towards base.

Allied to *Ulochora* and *Trissodoris*.

63. *Endograptis pyrrhoptila*, n. sp.

♂ 8 mm. Head whitish-ochreous, collar brownish-ochreous. Palpi whitish, basal half and tip of second joint fuscous. Thorax ochreous-brownish. Forewings elongate-lanceolate; yellow-ochreous irregularly sprinkled dark brown; costal edge dark fuscous on basal half; a subcostal line of dark fuscous irroration on basal fourth, and a fine dark fuscous line along fold from base to  $\frac{2}{5}$  with a spot of dark fuscous irroration about it near apex, space between these tinged whitish; a very oblique broad streak of whitish suffusion from costa to  $\frac{1}{4}$ , extended slenderly in disc to middle, apical portion edged dark brown above; an oblique wedge-shaped white streak from costa beyond middle reaching half across wing, edged dark fuscous anteriorly; a triangular white spot on costa at  $\frac{4}{5}$ , edged dark fuscous posteriorly; a line of dark fuscous suffusion along dorsum from  $\frac{1}{3}$  to tornus; indistinct whitish marks on dorsum at  $\frac{2}{3}$ , at tornus, and on termen below middle; a round fuscous apical spot marked dark fuscous above and edged white anteriorly: cilia pale greyish, round apex whitish with dark fuscous subbasal line and apical hook. Hindwings light grey, suffused whitish towards base; cilia pale grey.

Upolu, Malololelei, 2,000 feet, February; 1 ex.

64. *Trissodoris honorariella* Wals.

Upolu, Malololelei, 2,000 feet, April; 1 ex. Occurs also in Ceylon, New Guinea, Hawaii, Fiji, and Pitcairn Island, probably throughout the Pacific; *T. quadrifasciata* Wals. is a synonym. It has been reared from larvae feeding on dead leaves of *Pandanus*.

65. *Spiroterma caranaea* Meyr.

Upolu, Apia, November; 1 ex. Occurs also in India, Ceylon, and New Hebrides, therefore probably introduced; the example varies slightly from type, but cannot be separated specifically; the oblique median line of forewings is rather silvery-metallic in disc, and the blackish irroration is less pronounced and general.

66. *Pyroderces euryspora* Meyr.

Upolu, Apia, November; 1 ex. Described (Exot. Micr. ii, 471) from a specimen from Fiji; bred from larvae feeding in dry cotton-bolls, which are a favourite pabulum also of other species of the genus, but probably, like them also, the species feeds on various dry refuse.

67. *Limnoecia arsitricha*, n. sp.

♂♀ 11-13 mm. Head whitish-ochreous, a central stripe on crown greyish. Palpi whitish. Thorax whitish-ochreous. Forewings greyish-ochreous to grey; very oblique whitish wedge-shaped streaks from costa near base, at  $\frac{1}{4}$ , middle, and  $\frac{3}{4}$ , first rather short, second extended as a line to tornus, third extended as a line to middle of a streak along termen to apex, thickened on upper part of termen, fourth finest not quite reaching this; a slender whitish supramedian streak from base crossing second of these and running into third, in one example obsolete; a whitish subdorsal streak from base to tornus; a black line along terminal edge, interrupted below middle; a short inwards-oblique whitish wedge-shaped mark on costa towards apex, edged posteriorly by a blackish line continued on costa to apex: cilia whitish, on termen mixed dark fuscous towards base, on tornal area tinged grey. Hindwings grey; in ♂ broader, an expansible tuft of very long ochreous-whitish hairs from near base of costa; cilia pale grey.

Upolu, Malololelei, 2,000 feet, Apia, Vailima, March, May, July, December; 6 ex. Occurs also in New Hebrides.

68. *Limnoecia eumeristis*, n. sp.

♂♀ 8-9 mm. Head, thorax bronzy-fuscous, somewhat mixed pale ochreous, face whitish-ochreous. Palpi fuscous, second joint with pale ochreous supra-median band and subapical ring. Thorax in ♂ with long expansible lateral whitish-ochreous hairpencil from beneath forewings reaching middle of abdomen. Forewings bronzy-brown, more or less suffusedly irrorated fuscous; two broad

oblique whitish-ochreous streaks from costa anteriorly and a third narrower beyond middle reaching about half across wing, interspaces suffused blackish, third edged blackish posteriorly; three irregular variable whitish-ochreous spots or oblique streaks on or near dorsum opposite these, and spots in disc beyond each of the first two, some irregular blackish spotting in disc about these; a blackish dash in disc beyond middle, and a roundish spot beyond apex of third streak; opposite this are oblique whitish strigulae from costa and dorsum edged black posteriorly, upper longer; an inwards-oblique ochreous-whitish strigula from costa just before apex, edged beneath by a black mark or spot, beneath this some leaden-grey suffusion: cilia whitish-ochreous, base mixed blackish, round apex base white within a black subbasal line, with white projecting apical hook. Hindwings and cilia light grey.

Upolu, Malololelei, 2,000 feet, February, April, June; 7 ex.

#### 69. *Microcolona dorochares*, n. sp.

♀ 11 mm. Head yellow-whitish, apex of appressed sidetufts orange. Palpi white, second and terminal joints each with two black rings. Thorax yellow-whitish, a stripe on tegulae and two posterior dots orange. Forewings pale whitish-yellow; markings orange, more or less speckled fuscous, forming a streak along costa from base to  $\frac{3}{5}$ , its posterior third abruptly narrowed, a streak from beneath apex of this to costa before apex, irregular spots and streaks occupying larger dorsal half of wing from base to tornus, and an elongate patch along termen to apex; first discal stigma forming a black dot in centre of a pale circular median space; plical and second discal forming strong black-tipped tufts, plical very obliquely before first discal near dorsum, second discal beyond  $\frac{3}{4}$ , a smaller blackish-sprinkled tuft near dorsum halfway between these; a silver-metallic spot from tornus reaching half across wing; an elongate blackish-grey spot on costa about  $\frac{3}{4}$ ; a silver-metallic mark crossing wing before apex, followed on costa by a minute black dot; a silvery apical dot: cilia light grey tinged yellow-ochreous towards base. Hindwings rather dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex. This approaches Indian, not Australian forms of the genus.

#### 70. *Batrachedra acrodeta*, n. sp.

♀ 9 mm. Head whitish-ochreous, central line of crown greyish-ochreous. Antennae ochreous-white ringed dark fuscous, apical third white with four

narrow blackish-grey rings. Palpi whitish, subapical band of second joint and median band of terminal dark fuscous. Thorax light yellow-ochreous. Forewings very narrow; yellow-ochreous, speckled dark fuscous, on costal half more densely and suffusedly irrorated; a small blackish apical spot: cilia whitish-ochreous, above apex with blackish antemedian line, before this dark grey. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex. Seemingly reared (larval No. 688), but without particulars. Not near any Australian form, but apparently much like the Indian *B. orinarcha*.

## CARPOSINIDAE

71. *Meridarchis zymota* Meyr.

Upolu, Malololelei, 2,000 feet, Apia; Tutuila, Pago Pago, Amauli; 1 ex., and 3 others in Bishop Museum. Also occurs in New Guinea and North Australia.

72. *Carposina carcinopa*, n. sp.

♂♀ 10–12 mm. Head, thorax white, shoulders tinged brownish. Palpi white, externally brownish except apex of joints, second joint more or less irrorated dark fuscous. Forewings suboblong, termen straight, rather oblique; white, irregularly tinged greyish-ochreous except along costa; markings brown, tufted and white-tipped posteriorly; a basal patch extending on costa to  $\frac{1}{5}$ , but very narrow on dorsum, including a white median basal spot, towards costa irrorated blackish; a moderate transverse spot on costa at  $\frac{2}{5}$  reaching  $\frac{1}{3}$  across wing, marked black at lower anterior angle, sometimes forming a short dash, and five irregular dots or small spots on costa between this and apex; a dot in disc at  $\frac{1}{3}$  and transverse mark beneath this; a small transverse mark beneath middle of disc; a transverse-oval spot on end of cell, more or less marked black above and posteriorly edged clear white on these margins; a small spot obliquely before and above this, sometimes distinctly circled white, from beyond this an irregular indistinct shade running beneath costa and then subterminal to tornus; a terminal series of cloudy dots: cilia white, basal area faintly barred brownish. Hindwings whitish; cilia white.

Upolu, Malololelei, 2,000 feet, April to June, December; 15 ex.

## ORNEODIDAE

73. *Orneodes amalopsis*, n. sp.

♀ 9 mm. Head white, crown infuscated. Palpi curved, equally loosely scaled throughout, white, terminal joint  $\frac{2}{3}$  of second, with basal and subapical dark fuscous rings. Thorax white, tips of tegulae speckled fuscous. Forewings white; markings pale fuscous, minutely darker-striated; first segment with some slight mottling towards base, narrow oblique bars at  $\frac{1}{3}$  and beyond middle, a cloudy posterior fascia and anteapical spot; segments 2-6 with five irregular fasciae dotted blackish on both margins and praeapical series of spots dotted black anteriorly, white spaces between these not much narrower than fasciae: cilia white, tinged grey on fasciae. Hindwings as forewings, but fasciae narrow, first segment similar to the rest.

Upolu, Malololelei, 2,000 feet, December; 1 ex. Belongs to group of *pygmaea*, but distinct.

## COPROMORPHIDAE

74. *Copromorpha orthidias*, n. sp.

♂ 16 mm. Head white, forehead tinged violet-fuscous. Palpi fuscous, apex of second joint and base and apex of terminal white. Antennae lamellate (nearly 2). Thorax white, shoulders sprinkled pale fuscous. Forewings costally gently arched, termen rounded, somewhat oblique; white, bases of scales light grey, irregularly scattered rather long dark fuscous strigulae; seven or eight small dark fuscous spots on costa; dark fuscous blotches in disc at  $\frac{1}{4}$  and  $\frac{2}{3}$ , edged posteriorly by raised scales white posteriorly, first connected with dorsum by a less dark similar bar, beneath second a patch of grey suffusion obscurely connected with dorsum; a small suffused dark fuscous triangular spot beneath costa at  $\frac{2}{5}$ ; an irregular terminal fascia of grey suffusion: cilia ochreous-whitish barred grey. Hindwings 3 and 4 connate; whitish; cilia ochreous-whitish.

Upolu, Malololelei, 2,000 feet, December; 1 ex. Nearest to the much larger Fijian *C. gypsota*.

75. *Phycomorpha bryophylla*, n. sp.

♂♀ 19-23 mm. Head, thorax moss-green. Palpi green, second joint with two darker bars, terminal joint with a darker band beneath whitish tip.

Antennae ♂ strongly lamellate ( $1\frac{1}{2}$ ), minutely ciliated. Abdomen ♂ with ochreous-whitish hairpencils lying along each side from near base. Forewings termen slightly rounded, somewhat oblique; rather deep moss-green, with small irregular spots of shining metallic emerald-green irroration; numerous small blackish tufts tipped posteriorly whitish-green and preceded by more or less deep fuscous or sap-green suffusion sometimes slightly coppery-tinged, these forming about nine spots on costa, a mark in disc towards base, a spot in disc at  $\frac{1}{3}$ , a transverse blotch in disc at  $\frac{2}{3}$ , dots towards costa about  $\frac{1}{3}$  and middle, one in disc beneath middle, a subdorsal series of four, a more or less expressed incomplete transverse series from penultimate costal spot interrupted above middle, and a complete series of seven from last costal spot to tornus sinuate inwards above middle: cilia light dull greenish. Hindwings grey; cilia light grey.

Upolu, Malololelei, 2,000 feet, Apia, 1,000 feet; June, October, December; 4 ex. Extremely similar to *Ph. prasinochroa*, of Sydney, New South Wales, being identical in structure, markings, and colour, except that *Ph. prasinochroa* is apparently paler in colouring (but I have never seen fresh examples), possesses some black marking preceding the situation of the praemarginal line which is quite absent in *Ph. bryophylla*, and is without the abdominal hairpencils of ♂. Neither species is known to me as occurring in any other locality, nor anything at all near them. The close and interesting resemblance in colour and details of markings to some species of *Carposina* indicates the real affinity between the families, which is shown also in all the structure except the distinguishing neuration of hindwings.

#### HELIODINIDAE

##### 76. *Vanicela haliphanes*, n. sp.

♂♀ 13-14 mm. Head, palpi shining white. Thorax white, posterior margin dark grey. Forewings shining white; a dark bronzy-grey streak occupying nearly dorsal half of wing, its lower half shining blue-purple, upper edge sinuate towards  $\frac{1}{3}$  of wing, shortly triangular-prominent at middle and  $\frac{3}{4}$ , finely attenuated on termen and not reaching apex; a cloudy blackish dot towards apex, whence a slight streak of grey suffusion runs into apex: cilia light grey, round costa and apical part of termen white. Hindwings and cilia light grey.

Upolu, Malololelei, 2,000 feet, Apia, June, December; 2 ex. Nearest the New Zealand *V. disjunctella*.

77. *Aeloscelis chionopyrrha*, n. sp.

♂♀ 9–11 mm. Head shining pearly-white, collar reddish-orange. Palpi whitish-yellow. Thorax shining white, posterior margin coppery-orange sometimes tipped fuscous. Forewings shining silvery-white; basal, antemedian, and postmedian broad light yellow fasciae, rather inwards-oblique from costa, strongly edged on sides, dorsum, and beneath costa with deep ferruginous-orange, on dorsum infuscated, on costa connected by a narrow fuscous streak from base to end of third; a similar oblique ferruginous-orange streak towards apex cutting off a small white apical space suffused orange on margins: cilia whitish-grey, on costa and round apex pale yellowish. Hindwings and cilia whitish-grey.

Upolu, Malololelei, 2,000 feet, Vaea, 1,200 feet, Vailima, Apia; February, June, September, November; 10 ex. Also 1 in Bishop Museum.

78. *Hieromantis deprivata*, n. sp.

♂♀ 11–16 mm. Head shining ochreous-whitish, crown more or less tinged grey. Palpi ochreous-whitish. Thorax whitish-ochreous, sometimes partially or wholly suffused grey. Forewings widest towards base, thence narrowed to apex; whitish-ochreous; markings variable in development, grey or dark grey or brownish-ochreous, wing sometimes mostly suffused grey; a broad very oblique fasciate blotch of groundcolour from dorsum towards base reaching  $\frac{2}{3}$  across wing, outlined by dark suffusion and including a dark median streak or series of two or three spots, uppermost spot sometimes very dark; a dark median transverse fascia sometimes well-marked; a dark spot on costa at  $\frac{3}{4}$ , and elongate mark on extremity of fold beneath it: cilia whitish-ochreous or grey. Hindwings dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, April, June, November; 4 ex. The species is interesting in that the area to include the curious jewelled blotch characteristic of most species of this genus is clearly marked out, but the blotch itself is absent.

79. *Hieromantis munerata* Meyr.

Upolu, Malololelei, 2,000 feet, April; 1 ex. Described (Exot. Micr. iii, 66) from a specimen from Fiji; also occurs in New Hebrides.

80. *Hieromantis praemiata* Meyr.

Upolu, Malololelei, 2,000 feet, June, November; 2 ex. Also 1 from Tutuila (Bishop Museum). Also described (Exot. Micr. ii, 460) from an example



from Fiji. This and the preceding species may probably have been developed as indigenous species in different island groups, but since interchanged by commerce.

### 81. *Hieromantis amblyptera*, n. sp.

♂ 13 mm. Head shining whitish-ochreous, crown slightly tinged grey. Palpi grey-whitish. Thorax whitish-ochreous somewhat mixed grey. Forewings scarcely narrowed posteriorly, rather short-pointed; light ochreous-grey, irregularly mixed and suffused dark grey; a brassy-ochreous-whitish patch occupying dorsal half from base to  $\frac{3}{5}$  of wing, its upper edge concave towards middle of wing and edged with dark suffusion; a dark streak along anterior half of costa, beneath this a streak of pale suffusion rising out of dorsal patch near base; terminal area suffused brassy-whitish-ochreous, but separated from dorsal patch by dark suffusion: cilia grey. Hindwings (♂) abbreviated, normally broad on basal half but then abruptly and shortly obtuse-pointed, little longer than half forewings; whitish-ochreous, discal area grey-whitish, a large expansible whitish-ochreous hairpencil from base lying along costa to  $\frac{3}{4}$ ; cilia pale greyish. Forewings beneath dark grey, anterior  $\frac{2}{3}$  whitish-ochreous except on costal margin, with a submedian streak of modified ochreous scales.

Upolu, Apia, 1,000 feet, October; 2 ex.

### 82. *Hieromantis inhonorata*, n. sp.

♀ 9-10 mm. Head shining ochreous-whitish, forehead more or less tinged coppery-fulvous, crown grey or fuscous. Palpi whitish, terminal joint tinged grey anteriorly. Thorax pale greyish-bronzy, sometimes suffused dark fuscous especially anteriorly. Forewings widest near base, thence narrowed to apex; pale greyish-bronze, sometimes suffused throughout with dark fuscous irroration: cilia grey. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, April; 2 ex.

### 83. *Calicotis rhizomorpha*, n. sp.

♂♀ 6-7 mm. Head, palpi, thorax shining white. Forewings very acute; shining white; a slender somewhat oblique transverse fuscous streak at  $\frac{1}{3}$ , not reaching costa or dorsum; a thick longitudinal fuscous streak attenuated posteriorly from disc beyond middle to near apex: cilia white. Hindwings and cilia white.

Upolu, Malololelei, 2,000 feet, November; 3 ex. Very distinct.

84. *Stathmopoda lamprytis*, n. sp.

♀ 8 mm. Head golden-yellow, fillet silvery, face white. Palpi white. Thorax golden-yellow. Posterior tibiae whitish, a blackish apical ring. Forewings orange-yellow, with brassy-metallic basal patch, and towards posterior half of dorsum and apex suffused brassy-metallic; costal edge whitish except anteriorly: cilia brassy-whitish, tinged grey towards tornus. Hindwings light grey; cilia whitish-grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex.

85. *Stathmopoda spilothorax*, n. sp.

♀ 11-13 mm. Head orange on crown, forehead violet-grey, face pearly-whitish. Palpi whitish, terminal joint grey anteriorly. Thorax orange, a quadrate antemedian blotch, another postmedian, and blotches on shoulders violet-grey. Forewings widest near base, attenuated, acute; rather dark violet-grey; a suffused orange streak along fold from near base to before middle of wing, and another from above apex of this to tornus, beyond apex of first a suffused darker grey dorsal spot: cilia light grey. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, Apia, 1,000 feet; June, October, November; 6 ex. Also 2 in Bishop Museum.

86. *Stathmopoda anticyma*, n. sp.

♀ 11 mm. Head pearly white, back of crown dark fuscous. Palpi whitish, a dark fuscous lateral line. Thorax dark fuscous, a broad white antemedian band. Forewings dark fuscous; a narrow ochreous-white costal streak from base, expanding before middle into a triangular blotch reaching nearly half across wing, and terminating in a larger triangular postmedian blotch whose apex touches tornus; a triangular white apical blotch, widest on costa and sometimes almost connected with preceding, in one specimen also on termen: cilia whitish-ochreous, towards tips whitish, on tornus tinged fuscous, on costa a fuscous basal shade. Hindwings dark grey; cilia grey.

Upolu, Apia, Vailima, March, June, November; 4 ex. Also 1 in Bishop Museum. Nearly allied to the Australian *S. megathyma* and *S. zalodes*.

87. *Pachyrhabda antinoma* Meyr.

Upolu, Malololelei, 2,000 feet, April, May; 2 ex. Also 1 from Tutuila, Pago Pago (*Swezey*) in Bishop Museum. Occurs also in India, Ceylon, East

Australia, and Kermadec Islands, perhaps artificially conveyed with cultivated ferns, on which the larva doubtless feeds.

88. *Pachyrhabda amianta*, n. sp.

♂♀ 7-9 mm. Head, palpi, antennae, thorax, abdomen shining whitish. Posterior legs wholly whitish, without spots. Forewings shining whitish: cilia concolorous. Hindwings and cilia whitish.

Upolu, Malololelei, 2,000 feet, June; 1 ex. Also 3 from Tutuila, Amauli, bred September from larvae feeding on fructification of "bird's nest fern" (*Swezey*), in Bishop Museum. In all four examples the posterior legs are perfect, and are entirely without the black apical spot on the tibiae, characteristic of *P. antinoma*.

GLYPHIPTERYGIDAE

89. *Irianassa uranopa*, n. sp.

♂♀ 16 mm. Head, thorax deep green-blue. Palpi dark blue-grey, internally whitish. Forewings termen little oblique, sinuate beneath apex; deep blue, with golden-green reflections, costal area blackish, beneath apex a patch of pale greyish-bronze suffusion; a rather oblique streak of groundcolour from dorsum reaching half across wing enclosed by pale silver-grey lines united at apex but towards dorsum diverging and becoming obsolete; two very oblique light blue-metallic streaks rising from costa towards middle, whitish on costal edge, uniting in a slender curved silver fascia running to dorsum at  $\frac{2}{3}$  and enclosing on lower half of wing a streak of groundcolour; a light blue-metallic oblique triangular spot on costa at  $\frac{2}{3}$ , blackish on costa between two white dots; two direct white wedge-shaped marks from costa before apex, a light blue-metallic slender streak from a white dot on costa at  $\frac{3}{4}$  curved round to join apex of second of these, a very oblique light blue-metallic mark beneath costa preceding first; a thick violet-silvery transverse streak preceding termen on dorsal  $\frac{2}{3}$  of wing, a black dot in this below its middle; a silver dot in subapical situation: cilia prismatic purplish-coppery-metallic. Hindwings violet-hyaline, veins blackish; costal  $\frac{2}{5}$  deep blue, with golden-green reflections; on rest of wing an irregular terminal streak of dark fuscous suffusion, a band of this suffusion extending inwards along fold more or less to base; cilia white, a dark fuscous basal line.

Tutuila, Pago Pago, November, December; 4 ex. Very close to *I. alcyonopa*, of the New Ireland group. The beautiful colouring varies with the incidence of light.

***Philocoristis*, n. g.**

Head smooth, shining; ocelli posterior; tongue developed. Antennae 1, somewhat thick and slightly flattened, only tapering just at apex, scape short, stout, with small scale-projection at anterior angle. Labial palpi moderate, porrected, slender, smooth, filiform, second joint very short, terminal joint twice second, pointed. Maxillary palpi obsolete. Posterior tibiae smooth. Forewings 2 from angle, 3 and 4 stalked, 5 absent, 7 to termen, 8 and 9 approximated at base, 11 from middle. Hindwings under 1, elongate-trapezoidal, apex rounded, cilia  $\frac{1}{3}$ ; 2 remote, 3 and 4 connate, 5-7 almost connate, widely diverging.

A singular form, possibly allied to *Piestoceros*.

**90. *Philocoristis catachalca*, n. sp.**

♀ 10 mm. Head shining bronze. Palpi ochreous-whitish. Antennae dark bronzy-fuscous. Thorax shining iridescent-bronze. Forewings elongate, posteriorly dilated, costa gently arched, apex rounded-obtuse, termen very obliquely rounded, apical portion of wing beyond cell deflexed; shining iridescent greenish-bronze; undefined patches of dull coppery suffusion on costa towards base and in middle; apical area suffused dull coppery: cilia grey, a darker suffused shade. Hindwings dark fuscous; cilia grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex.

**91. *Imma chelacma*, n. sp.**

♂♀ 18-20 mm. Head pale ochreous-yellowish, crown infuscated except on sides. Antennae ♂ with fascicles of long cilia (3). Palpi pale ochreous-yellowish, ♂ second joint much elongated, with fuscous lateral stripe, terminal joint modified into a fine hair-like curved dark fuscous spine, ♀ second joint rather short, suffused fuscous anteriorly towards apex, terminal joint normal, cylindrical, obtuse, apical half dark fuscous. Thorax fuscous, an ochreous-yellow stripe on tegulae, these in ♂ with apex elongated with scales, a slight yellowish stripe in ♂ on each side of back anteriorly. Forewings subtriangular, dorsum ♂ more strongly convex, termen rather obliquely rounded; 7 and 8 stalked, 8 to costa; rather dark fuscous; markings light ochreous-yellowish; a line along fold from base to  $\frac{1}{3}$ , a shorter line above this, a transverse mark from base of costa joining these, a small spot on costa at  $\frac{1}{6}$ , and an oblique suffused mark towards dorsum at  $\frac{1}{4}$ ; a median band of more or less developed suffusion

or irroration enclosed by two irregular well-marked paler lines rising from ochreous-yellow costal spots centred pale brownish, a subcrescentic blackish discal mark on second of these lines; an oblique spot centred pale brownish from costa towards apex, whence a suffused waved line runs to tornus, from just before this towards costa a fine irregular dentate whitish line runs to join median band below middle; two small spots on costa before apex, and a row of terminal dots or marks: cilia light fuscous, a darker basal shade. Hindwings broader in ♂, tornal area more expanded; dark fuscous, basal half and dorsal area thinly scaled, subhyaline, the contrast more marked in ♀: cilia fuscous-whitish, a dark fuscous basal line; in ♂ a pencil of a very few blackish hairs enclosed in a very fine subdorsal groove.

Upolu, Malololelei, 2,000 feet, June; 7 ex. A very distinct form.

#### 92. *Imma philonoma* Meyr.

Upolu, Malololelei, 2,000 feet, Apia, 1,000 feet; June, October; 3 ex. (2 ♂, 1 ♀). Described (Exot. Micr. iii, 132) from a specimen from Fiji. The ♀ expands 25 mm., larger than the original examples of that sex; ♂ 26 mm., the genitalia furnished with long expansible tuft of whitish hairs.

#### 93. *Brenthia trimachaera*, n. sp.

♀ 6-8 mm. Head light glossy greyish-ochreous, face whitish. (Palpi injured.) Thorax bronzy-grey, shoulders pale bronzy. Forewings fuscous; a curved oblique whitish streak from dorsum at  $\frac{1}{3}$  to costa beyond middle, thence along costa and becoming pale brownish-ochreous to apex; two less oblique slightly curved whitish streaks from dorsum beyond middle, terminating in a pale brownish-ochreous spot above middle adjoining costal streak; terminal area beyond these markings occupied by two black confluent blotches, upper with a projecting lobe terminating in a small prismatic-golden spot, a bluish-white dot in upper blotch near termen and a violet-golden one in lower, another on apex of indentation between them, and minute violet-metallic dots above and below this last: cilia grey, outer half whitish-grey. Hindwings grey; an oblique white line in disc about  $\frac{2}{3}$ ; a bluish-silvery spot on apex; cilia grey, oblique white patches above and below middle.

Tutuila, Pago Pago, September (*Swezey*); 2 ex. in Bishop Museum.

94. *Brenthia catenata* Meyr.

Tutuila, Pago Pago, September, December ; Savai'i, Fagamalo, November ; 2 ex., and 1 in Bishop Museum. Occurs also in India, Ceylon, Sumatra, Java, and Philippines ; larva feeding on *Erythrina*, with which tree the species has doubtless been introduced.

95. *Choreutis falsifica*, n. sp.

♂ 9 mm. Head, antennae, thorax dark fuscous, antennal ciliations minute. Palpi wholly white, second joint without tuft, apex pointed. Forewings dark fuscous ; a dot of white irroration on costa at  $\frac{1}{4}$ , and white transverse marks at middle and  $\frac{3}{4}$ , from each of these a faint irregularly dentate whitish line crossing wing, third angulated above middle, near beyond second a whitish transverse-linear mark in upper part of disc : cilia dark fuscous, tips white, with white indentation beneath apex. Hindwings fuscous ; four indistinct irregular pale shades, last angulated below middle, but no white markings.

Savai'i, Salailua, May (*Bryan*) ; 1 ex. in Bishop Museum. Notwithstanding the abnormal palpi, I place this in *Choreutis*, with which it agrees in general characters ; it could not be referred to *Brenthia* or *Simaethis*.

## BLASTOBASIDAE

96. *Blastobasis tarda* Meyr.

Upolu, Aleipata, Lalomanu, Tuaeafa, September, November ; Tutuila ; 1 ex., and 2 in Bishop Museum. Also in East Australia, whence it was doubtless introduced. Larva probably on seeds or dry refuse.

97. *Blastobasis homadelpha* Meyr.

Upolu, Apia, Malololelei, April, June ; 2 ex. These are ♂ and ♀, but the ♂ has lost the head, and therefore identity not fully established, but probably correct. Also in East Australia, and introduced like the preceding.

## HYPONOMEUTIDAE

98. *Prays citri* Mill.

Upolu, Malololelei, 2,000 feet, April, June ; 9 ex. Occurs also in South Africa, India, Ceylon, Java, Philippines, East Australia, and Fiji ; introduced with the orange-tree, in the shoots of which the larva feeds.

*Cymonympha*, n. g.

Head smooth ; ocelli posterior ; tongue developed. Antennae  $\frac{3}{4}$  (? imperfect), scape moderate, rather thickened with scales above, without pecten. Labial palpi long, curved, ascending, second joint hardly roughened anteriorly towards apex, terminal joint somewhat shorter, pointed. Maxillary palpi minute, porrected. Posterior tibiae shortly hairy above. Forewings 2 from angle, 3 and 4 absent, 5 approximated, 6 separate, 7 to costa, 8-10 equidistant, 11 from  $\frac{3}{4}$  (?). Hindwings  $\frac{2}{3}$ , lanceolate, cilia 2 ; 2-5 very short, 6 and 7 nearly approximated towards base, long, diverging. Ovipositor laterally flattened, elongate-triangular.

99. *Cymonympha xantholeuca*, n. sp.

♀ 7 mm. Head, palpi, antennae, thorax, abdomen white. Forewings elongate, narrow, costa gently arched, apex pointed, termen extremely obliquely rounded ; white ; an orange-yellow transverse fasciate blotch resting on tornus but not quite reaching costa : cilia white. Hindwings and cilia white.

Upolu, Apia, August ; 1 ex.

100. *Litaneutis sacrifica* Meyr.

Upolu, Malololelei, 2,000 feet, April, July ; 2 ex. Occurs also in India and East Australia, therefore probably introduced. Both these examples are ♀, and my 7 Australian and Indian specimens are all ♂, but they are doubtless identical ; in these the termen of forewings is rather less oblique, the grey markings more nearly obsolete.

101. *Callithrinca spendonista*, n. sp.

♀ 22 mm. Head whitey-brownish. Palpi light grey, terminal joint slightly shorter than second. Thorax brown-whitish. Forewings 7 to apex (indefinite), 7 and 8 in one wing short-stalked ; shining white ; a dark ferruginous-brown streak mixed deep indigo-blue along basal third of costa, enclosing a white costal spot towards base, a ferruginous-brown spot beneath this towards extremity ; about 18-20 ferruginous-brown dots irregularly strewn in disc above middle from  $\frac{1}{4}$  to near termen, some of these connected by a longitudinal streak from middle to near termen ; base of dorsum dark ferruginous-brown ; a dark ferruginous-brown spot mixed deep indigo-blue on dorsum beyond middle, and a smaller spot on fold rather before this, beyond these some

ferruginous-brownish suffusion: cilia white. Hindwings dark grey; cilia whitish, suffused grey towards base.

Upolu, Tuaeafa, September (*Swezey and Wilder*); 1 ex. in Bishop Museum.

### 102. *Anticrates difflua*, n. sp.

♂♀ 14–16 mm. Head light yellowish, anterior edge of collar crimson. Palpi pale yellowish, externally suffused crimson. Thorax yellow, posterior half sometimes light purplish, apex of tegulae crimson. Forewings veins separate, 2 and 3 closely approximated towards base; yellow; markings light purplish, suffused crimson on edges, variable in development; streaks along basal fourth of costa and anterior half of dorsum; a very irregular curved fascia joining ends of these, narrow irregular fasciae from middle of costa to tornus and from costa before apex to dorsum at  $\frac{4}{5}$  crossing one another, a crimson line along fold throughout sometimes receiving a short line from base of dorsum, bars from above and below middle of first fascia converging to middle of second, some crimson marking between second and third towards costa, but these are sometimes partially and irregularly obsolete: cilia yellow, basal half usually crimson, a crimson tornal bar or patch. Hindwings and cilia light rosy.

Upolu, Malololelei, 2,000 feet, February, June, December; 4 ex. Also 2 poor specimens from Tutuila in Bishop Museum. Though varying in detail, these are certainly all conspecific.

## GRACILARIADAE \*

### 103. *Epicephala acrocarpa*, n. sp.

♂ 9 mm. Head white. Palpi grey, tip white. Thorax fuscous, a white dorsal stripe. Forewings fuscous speckled darker; markings white edged dark fuscous suffusion; a broad dorsal streak from base to beyond tornus, towards tornus almost interrupted by an inwards-oblique indentation of edge and two dark fuscous dots placed obliquely and connected by a little fuscous suffusion, on tornus another dark fuscous dot, apex of streak obliquely bifurcate-prominent before subterminal line; three oblique white wedge-shaped marks from costa at  $\frac{1}{3}$ , beyond middle, and  $\frac{3}{4}$ , first somewhat produced towards base by suffusion on costa, second produced in disc almost to touch an oval white spot including a fine longitudinal dark fuscous line lying between third and

\* See note on p. 76.—E. E. Austen.



apex of dorsal streak ; a slightly excurved silvery transverse line just beyond these, apical area beyond this orange, including a small dot of black and silvery scales just before apex edged above by a white dot, and small suffused white spot on termen beneath apex : cilia white, round apex a black basal line, across apex an oblique black hook. Hindwings light grey ; cilia pale grey.

Upolu, Malololelei, 2,000 feet, June ; 1 ex. Allied to Australian forms, especially to *E. trigonophora*.

#### 104. *Acrocercops homalacta*, n. sp.

♂ 7 mm. Head silvery-white. Palpi slender, white, an apical ring of second joint and median ring of terminal suffused dark fuscous. Thorax fuscous, tegulae silvery-white, shoulders dark fuscous. Forewings rather dark fuscous ; markings silvery-white, edged black scales ; a narrow basal fascia ; a moderately broad slightly oblique fascia at  $\frac{2}{5}$ , hardly dilated downwards ; a narrower somewhat oblique even fascia beyond middle ; a narrow line at  $\frac{3}{4}$  parallel to this, interrupted in middle ; a slightly oblique fasciate spot from costa at  $\frac{5}{6}$ , its apex shortly obtuse-pointed but touching termen ; a small apical spot partly in cilia, limited posteriorly by a black bar, cilia otherwise pale grey with dark median line on tornus, a white bar from lower end of ante-apical spot. Hindwings rather dark grey ; cilia grey.

Upolu, Malololelei, 2,000 feet, April ; 1 ex. Closely related to the Indian *A. cathedraea* and the African *A. bifasciata*, which (with other closely allied species) doubtless represent a single original type.

#### 105. *Acrocercops nebropa*, n. sp.

♂ 9 mm. Head pale ochreous-grey, face white. Palpi smooth, white, terminal joint greyish anteriorly. Thorax brassy-white, tegulae brassy-yellowish. Forewings deep brassy-yellowish with faint greyish tinge, disc on anterior half pale brassy-yellow ; silvery-white direct fasciae at  $\frac{3}{5}$  and  $\frac{4}{5}$ , first moderate, narrowed on costa, second broader, immediately before second a direct silvery striga from costa reaching more than half across wing, edged black on both sides ; a large round black apical spot : cilia ochreous-whitish, a dark grey median shade, on tornal area tinged grey. Hindwings and cilia grey.

Upolu, Malololelei, 2,000 feet, June ; 1 ex. Belongs to *sauropis* group, but very distinct.

106. *Acrocercops phaeodeta*, n. sp.

♀ 8 mm. Head, palpi, thorax white. Forewings white; markings light fuscous; a faint suffused elongate spot on dorsum about  $\frac{1}{3}$ ; a moderate oblique suffused fascia in or beyond middle; a narrow slightly excurved fascia at  $\frac{4}{5}$ , and another slightly incurved near apex, these in one specimen confluent on costa: cilia whitish (imperfect), tinged grey towards tornus. Hindwings grey; cilia pale grey.

Upolu, Malololelei, 2,000 feet, June; 1 ex. Also 1 from Tutuila, Pago Pago, September (*Swezey*) in Bishop Museum. Group of *vanula*.

107. *Acrocercops cramerella* Snell.

Upolu, Malololelei, 2,000 feet, June; 1 ex. Occurs also in India, Java, and North Australia; introduced with *Nephelium titchi* and *N. lappaceum*, in the leaves of which the larva feeds.

108. *Acrocercops strophala* Meyr.

Upolu, Malololelei, 2,000 feet, June, November; 2 ex. Occurs also in India, Ceylon, and Java; doubtless introduced, but larval habits unknown.

109. *Parectopa pyrelictis*, n. sp.

♂ 11 mm. Head pale yellow, face white, back of crown, collar, and sides of face crimson. Palpi white, second joint crimson, scales roughly projecting towards apex beneath. Thorax yellow, shoulders and a posterior spot crimson. Forewings bright yellow, costa white; markings crimson; a narrow angulated almost basal fascia, from middle of which an irregular sinuate streak runs to and along costa almost to middle, enclosing two small white spots on costa, extreme costal edge blackish above; a thick irregular streak rising from dorsum before middle, its edge angulated towards preceding streak but not touching it, then continued through disc to apex, connected by two thick bars with dorsum so as to enclose two semioval yellow blotches, its upper edge receiving two fine oblique lines from middle of costa, finely black before and beyond these, and a fine curved strigula from costa towards apex, a short fine mark along costa a little before this, this streak marked with a black spot before apex, beneath this a spot of white suffusion and then a crimson tornal spot connected with apex of streak by a fine terminal line: cilia pale yellow, on costa white, an apical hook and tornal spot crimson. Hindwings dark grey; cilia grey.

Upolu, Malololelei, 2,000 feet, June ; 1 ex. This species doubtless marks the geographical line of connection of the New Zealand *P. miniella* with the similar crimson and yellow Indian species of this genus, of which the most nearly similar is apparently *P. hieranthes*, of Ceylon ; no similar form has been found in Australia, or nearer than Java.

#### 110. *Timodora chrysochoa* Meyr.

Upolu, Malololelei, 2,000 feet, June, November ; 2 ex. Described (Trans. Ent. Soc. Lond. 1886, 296) from a specimen from Tonga. The rough hairs on the head are in one example conspicuously erected, but in the other depressed, and are probably under voluntary control.

#### LYONETIADAE \*

#### 111. *Opogona pontigera*, n. sp.

♂♀ 10–11 mm. Head dark purple-fuscous, fillet and face ochreous-whitish. Palpi dark grey, internally whitish. Thorax pale yellow, shoulders dark fuscous. Forewings pale yellow ; a broad deep purple streak along costa from base to middle, narrowed near base, its apex angulated down and continued as a rather oblique fascia to dorsum before tornus, connected on tornus by an irregular dark fuscous streak with a deep purple blotch occupying apical fourth or fifth of wing : cilia grey. Hindwings dark grey ; cilia grey.

Upolu, Malololelei, 2,000 feet, February, June ; 2 ex.

#### 112. *Opogona sapphiropis*, n. sp.

♀ 13 mm. Head dark purplish-fuscous, fillet and face pearly whitish. Palpi whitish, externally grey. Thorax dark purplish-fuscous, posterior extremity pale yellow. Forewings light yellow ; a blackish-fuscous streak along costa from base nearly to  $\frac{1}{3}$  ; a slender irregularly dentate streak from costa beyond middle to dorsal origin of cilia, angulated in middle, marked with a bright deep blue spot below middle, from lower part of this a narrow irregular dark fuscous fascia runs along termen to costa, where it is somewhat dilated : cilia light fuscous. Hindwings dark grey ; cilia light fuscous.

Upolu, Malololelei, 2,000 feet, November ; 1 ex.

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\* See note on p. 76.—E. E. Austen.

113. *Opogona euprosopis*, n. sp.

♂♀ 9–13 mm. Head dark purplish-fuscous, fillet and face shining ochreous-whitish. Palpi ochreous-whitish. Thorax pale yellow, shoulders dark fuscous. Forewings pale yellow; markings dark purple-fuscous; a streak along basal fourth of costa (only in one example extended to following spot); a small semioval spot on middle of costa; a blackish dot in disc somewhat obliquely beyond this (absent in one specimen), another at origin of dorsal cilia (these seldom connected by a fine angulated mark), and a slender irregular streak from this along termen, sometimes partially obsolete, to an irregular-edged apical spot: cilia pale yellowish, near base sprinkled purplish. Hindwings light grey; cilia pale greyish.

Upolu, Malololelei, 2,000 feet, Vailima, Apia, February, May to August, December; 10 ex. Also 6 others in Bishop Museum, including 2 from Savai'i, Safune (*Bryan*). Allied to the preceding, but obviously distinct as shown by the yellow thorax; the markings of forewings vary.

114. *Hieroxestis tyriopla*, n. sp.

♂♀ 13–14 mm. Head, thorax coppery-purplish-bronze, fillet, face, and palpi ochreous-whitish, occipital rough fringe very slight. Forewings bright deep purple-blue, bases of scales whitish-ochreous, forming a fine transverse striolation, extreme costal edge ochreous-white; a pale yellow triangular dorsal patch from base to middle of wing, leaving a thick costal streak, outer edge rather oblique; a pale yellow elongate-triangular costal spot towards apex: cilia whitish-ochreous or whitish-yellowish, base somewhat mixed grey. Hindwings grey; cilia light greyish-ochreous.

Upolu, Apia, February, August, November; 3 ex., bred from larvae feeding on excrement of fowls.

115. *Hieroxestis citrinodes* Meyr.

Upolu, Apia, January; 1 ex. Described (*Exot. Micr.* ii, 559) from a specimen from Fiji, where it was bred from decayed cow-peas (fruits of *Vigna sinensis*).

116. *Diachalastis tetraglossa* Meyr.

Tutuila, Pago Pago, December; 1 ex. Described (*Exot. Micr.* ii, 363) from an example from Fiji.

117. *Pisistrata trypheropa* Meyr.

Upolu, Malololelei, 2,000 feet, Mulifanua ; Tutuila, Pago Pago ; Savai'i, Tuasivi, Fagamalo ; April, June, November, December ; 10 ex. in all. Also 15 in Bishop Museum. Described, Exot. Micr. iii, 81.

118. *Erechthias zebrina* Butl.

Upolu, Malololelei, 2,000 feet, June (*Armstrong*) ; 1 ex. Occurs also in India, China, Ceylon, Java, Borneo, Seychelles, Fiji, Hawaii, South America, and Antilles. Has been bred from wasps' nests, but probably the larva feeds on any dry vegetable material, with which it is introduced in hot climates.

119. *Decadarchis minuscula* Wals.

Upolu, Apia, May ; 6 ex. Occurs also in West and South Africa, Ceylon, Java, East Australia, Fiji, Hawaii, Mexico, and Antilles ; artificially spread, the larva feeding in dry stems, leaves, pods, etc. The specimens from Apia were bred, with a variety of beetles, etc., from Cacao pods, which had withered and rotted without falling from the trees.

120. *Decadarchis sphenotona*, n. sp.

♂ 10 mm. Head, thorax ochreous-whitish. Palpi rough-haired beneath throughout, ochreous-whitish, a line of dark fuscous scales on second joint externally. Forewings whitish ; a short thick oblique light greyish-ochreous streak from costa at  $\frac{1}{3}$  ; a broad wedge-shaped, very oblique brownish-ochreous blotch darker posteriorly, resting partly on costa before middle, its apex extending in disc to  $\frac{3}{4}$ , separated by a white line from a very oblique ochreous-yellow and pale grey streak from costa at  $\frac{2}{3}$ , which is again separated by a white line from a blackish streak extending along apical fourth of costa ; oblique ochreous-fuscous streaks from dorsum at  $\frac{1}{3}$  and  $\frac{2}{3}$  reaching fold, and a dash above tornus ; a small blackish apical spot : cilia white, above apex tinged ochreous with a dark fuscous line. Hindwings light grey ; an expansible pencil of ochreous-whitish hairs from base of costa reaching to beyond middle ; cilia grey becoming whitish round apex.

Upolu, Apia, February ; 1 ex.

121. *Decadarchis inculta*, n. sp.

♂ 9 mm. Head whitish. Palpi whitish, slightly speckled dark fuscous, rough-scaled beneath throughout. Thorax whitish irrorated grey. Forewings

whitish irrorated dark brownish-grey; markings dark brownish-grey, somewhat roughened, with a few blackish scales posteriorly; an oblique blotch from dorsum at  $\frac{1}{3}$ , an angulated median fascia, a spot on costa at  $\frac{2}{3}$ , one on tornus, and a spot in disc towards apex confluent with an apical spot: cilia whitish irrorated grey, an antemedian line of blackish scales. Hindwings light grey; cilia whitish-grey.

Upolu, Apia, March; 1 ex.

### 122. *Decadarchis perfumata*, n. sp.

♂ 11 mm. Head dark fuscous. Palpi rough-haired, ascending, dark fuscous. Thorax grey. Forewings light brownish-grey sprinkled darker; slight very oblique dark fuscous marks from costa at  $\frac{1}{3}$  and middle; a very oblique blackish-grey streak from costa at  $\frac{3}{4}$ , edged whitish posteriorly, pointing to a round blackish apical spot: cilia pale grey, about apex whitish at tips, above apex a blackish-grey basal shade. Hindwings grey, darker posteriorly; cilia light grey.

Tutuila, Pago Pago, December; 1 ex.

### 123. *Decadarchis eriophysa*, n. sp.

♂♀ 13 mm. Head whitish, ♂ sometimes tinged fuscous. Palpi white, in ♀ dark grey externally beneath apex of second joint, and on terminal joint except base and apex, with long projecting white hairscales beneath throughout; in ♂ very long, obliquely ascending, thickened with scales and towards apex above expanded with rough brush of scales, more or less infuscated externally, furnished internally with a dense mass of long white woolly hairs longer than palpi terminating in a small blackish-grey spot. Thorax whitish variably spotted fuscous anteriorly. Forewings ochreous-white, more silvery-white towards costa, variably and irregularly marbled on dorsal  $\frac{2}{3}$  with dark fuscous irroration especially towards apex, a similar undefined fasciate streak running from costa about  $\frac{2}{5}$  to tornus; an oblique mark of dark fuscous irroration on costa beyond middle, whence a yellow-ochreous streak runs beneath costa to meet apex of a very oblique fine dark fuscous line from costa at  $\frac{4}{5}$ , separated by a white streak from a dark ochreous-fuscous streak along apical part of costa; a blackish apical dot: cilia white, in ♀ sprinkled black basally on termen, a greyish postmedian shade, at apex a brownish bar with short dark fuscous postmedian and black apical lines. Hindwings light grey; cilia whitish-grey;

in ♂ costal cilia elongated, and a long expansible whitish hairpencil from base lying along costa to beyond middle. Forewings beneath with fringe of reflexed hairscales extending along costa throughout.

Upolu, Malololelei, 2,000 feet, Apia, April, July, November ; 3 ex.

#### 124. *Decadarchis simulans* Butl.

Upolu, Apia, January, February, July ; 3 ex. Also 1 from Tutuila (*Kellers*) in Bishop Museum. Occurs also in Hawaii, Fiji, and Ellice group, artificially spread ; larva feeding in dead wood and bark.

#### 125. *Decadarchis symphyas*, n. sp.

♀ 13 mm. Head, thorax whitish, shoulders with brownish-ochreous spot. Palpi whitish, sprinkled dark fuscous externally, second joint with long rough whitish hairscales beneath, terminal joint rough-scaled towards base. Forewings whitish, slightly sprinkled dark brown ; markings fuscous irrorated dark fuscous ; a mark along costa near base ; a large irregular-triangular blotch extending on costa from  $\frac{1}{4}$  to beyond middle and reaching  $\frac{2}{3}$  across wing, connected with dorsum by an indistinct oblique streak of pale ochreous suffusion ; blotches of irregular suffusion in disc at  $\frac{2}{3}$  and  $\frac{5}{6}$ , united with a spot on costa at  $\frac{3}{4}$ , faint oblique marks of pale ochreous suffusion beneath these also ; an apical spot : cilia whitish, partially tinged ochreous, at apex some fuscous scales. Hindwings grey-whitish ; cilia ochreous-whitish.

Upolu, Malololelei, 2,000 feet, June ; 1 ex.

#### 126. *Decadarchis retorta*, n. sp.

♀ 18 mm. Head ochreous-white. (Palpi denuded.) Thorax ochreous-white, a grey spot on shoulder and a small one in middle of anterior margin. Forewings ochreous-white ; markings light violet overlaid with fuscous ; a suffused spot on base of costa, whence a suffused streak runs beneath costa into an irregularly rounded blotch extending on costa from  $\frac{1}{3}$  to middle and reaching half across wing ; a streak along dorsum from near base to near tornus ; some irregular irroration towards upper part of termen : cilia ochreous-white. Hindwings whitish-grey, more whitish towards base and apex, greyer along lower part of termen ; cilia ochreous-whitish.

Upolu, Apia, April ; 1 ex. Not in good condition, but distinct.

127. *Decadarchis ancostyla*, n. sp.

♂ 16 mm. Head, thorax white, shoulders blackish. Palpi whitish irrorated blackish externally, beneath with long rough whitish hairscales throughout. Forewings ochreous-white; a thick irregular blackish-fuscous streak from base of costa above middle to  $\frac{2}{3}$ , lower edge biundulate, apex pointed and receiving an oblique blackish streak from costa at  $\frac{3}{5}$ , costal area above its posterior half suffused light fuscous; an elongate blackish-fuscous spot on costa at  $\frac{3}{4}$ ; some slight light fuscous speckling on dorsal area; some slight fuscous suffusion and a series of scattered coarse black scales from disc beneath apex of streak to apex of wing, forming a fine transverse line on base of upturned apical portion and then interrupted just before apical spot: cilia whitish, at apex with a fuscous subbasal line (imperfect). Hindwings whitish-grey; cilia grey-whitish.

Upolu, Apia, May; 1 ex.

128. *Comodica lucinda*, n. sp.

7 mm. (Head missing.) Forewings light orange; base suffused dark fuscous; rather broad white suffusion along costa, narrowed posteriorly; very oblique dark fuscous streaks from costa before  $\frac{1}{3}$  and about middle reaching half across wing, second followed by an attenuated white streak edged blackish posteriorly and terminating in a blackish tornal spot; a very oblique blackish streak from costa about  $\frac{3}{4}$ , curved up to apex; a slender blackish median streak from basal suffusion to tornal spot; a thick oblique blackish streak from dorsum at  $\frac{1}{4}$  running into median streak, another less thick and more oblique from middle of dorsum curved and attenuated to apex of tornal spot, and an elongate spot on dorsum beyond this: cilia whitish tinged orange towards base, at apex with two or three diverging blackish lines (imperfect). (Hindwings missing.)

Upolu, Malololelei, 2,000 feet, April; 1 ex. Notwithstanding the imperfect condition of the type, this species is so recognisable, and so obviously allied to but distinct from the Australian *C. tigrina*, that it can be safely described; it is certainly interesting enough to deserve description.

## TINEIDAE

*Marmaroxena*, n. g.

Head shortly rough-haired; ocelli posterior; tongue (apparently) developed. Antennae over 1, in ♂ somewhat stout, filiform, simple, scape short, without pecten. Labial palpi rather long, curved, ascending, slender, with appressed



scales, second joint with several lateral bristles, terminal joint slightly shorter than second, pointed. Maxillary palpi rather long, several-jointed, folded, loosely scaled. Posterior tibiae smooth. Forewings 1*b* furcate, 2 from angle, 3 approximated, 4 absent, 5 closely approximated to 6 towards base, 6 and 7 stalked, 7 to costa, 8 somewhat approximated, 9 from angle, 10 from towards angle, 11 from before middle. Hindwings  $\frac{3}{5}$ , lanceolate, cilia 2; 2 and 3 very short, 4 absent, cell probably open between 2 and 5, 5 and 6 stalked, 6 to termen, 7 nearly connate with stalk.

Quite abnormal, but possibly having some relation with *Hestiarula*, which, however, is itself an entirely isolated form.

129. *Marmaroxena autochalca*, n. sp.

♂ 8 mm. Head shining dark purplish-bronze, face paler. Palpi whitish-ochreous. Antennae dark grey. Thorax shining dark purple-bronze. Forewings elongate, slightly dilated, costa gently arched, apex pointed, deflexed, termen very obliquely rounded; shining dark purple-bronze; the deflection of apex produces a slight transverse brighter purple depression on costal half at  $\frac{2}{3}$ , and another somewhat more marked beyond this lighter and tinged golden-metallic towards costa: cilia dark grey, basal half blackish. Hindwings dark purplish-bronzy-grey; cilia purplish-grey.

Upolu, Apia, May; 1 ex. This species and *Philocoristis catachalca*, which, though in no way related together, are both much modified in the same sense from their normal facies, suggest imitation of a common model, perhaps a metallic Hemipteron.

130. *Monopis monachella* Hübn.

Upolu, Malololelei, 2,000 feet, February; 1 ex. Occurs in Europe, Africa, India, Ceylon, Sumatra, Formosa, Hawaii, and North America, artificially introduced; the larva feeds on dry skins, wool, and refuse.

131. *Monopis semivittata*, n. sp.

♂ 7 mm. Head whitish-ochreous, some fuscous hairs on each side of forehead. Palpi whitish, terminal joint fuscous except towards apex. Forewings 8 and 9 stalked; purplish-grey suffusedly irrorated blackish, two or three scattered whitish scales; some irregular whitish-ochreous scales along dorsum from  $\frac{1}{3}$  to a light ochreous-yellowish spot before tornus; discal impression small, hyaline: cilia grey, scattered blackish scales. Hindwings grey speckled darker; cilia grey.

Upolu, Apia, September; 1 ex.

132. *Crypsithyris sciophracta*, n. sp.

♂ 7 mm. Head grey-whitish, hairs of forehead infuscated. Palpi whitish. Thorax dark grey sprinkled whitish. Forewings grey irregularly irrorated dark fuscous and grey-whitish; discal impression large, whitish-hyaline, darker suffusion appearing to indicate a transverse fascia beyond this: cilia whitish-grey sprinkled dark fuscous. Hindwings dark grey; cilia grey.

Upolu, Apia, November; 1 ex.

133. *Tinea pachypila* Meyr.

Upolu, Apia, May; 6 ex. Occurs also in India, Ceylon, Africa, Seychelles, and Java; a domestic species, the larva case-bearing, probably feeding on woollen fragments. The larval cases were common in the Hospital Laboratory, Apia: the larvae were never observed to eat anything

134. *Setomorpha rutella* Zell.

Upolu, Apia, February, August, reared from larvae feeding in fowls' excrement and from rotten breadfruit, which had been riddled by fly-larvae and then begun to dry up; 16 ex. Occurs throughout America, Africa, the warmer parts of Asia and East Australia to Fiji and Hawaii, artificially spread; the larva feeding on a great variety of dry animal and vegetable substances.

135. *Cyathaula maculata* Meyr.

One example, stated to be Samoan, but without exact locality. Described (Trans. Ent. Soc. Lond. 1886, 289) from a specimen from Tonga; occurs also in Fiji and New Hebrides. Larva feeds under bark of dead timber.

136. *Trachycentra chlorogramma* Meyr.

Upolu, Malololelei, 2,000 feet, Apia, July; 2 ex. Found commonly (with other species of the genus) in the Solomon Isles, which are probably its home; occurs also in Fiji. Larva not known, but probably feeding in dead wood.

137. *Trachycentra calamias* Meyr.

Upolu, Aleipata, Lalomanu, Apia, June, November; 2 ex. Described (Trans. Ent. Soc. Lond. 1886, 288) from Tonga; occurs also in Fiji.



# INSECTS OF SAMOA AND OTHER SAMOAN TERRESTRIAL ARTHROPODA

## PROPOSED ARRANGEMENT :—

- Part I. Orthoptera and Dermaptera.  
,, II. Hemiptera.  
,, III. Lepidoptera.  
,, IV. Coleoptera.  
,, V. Hymenoptera.  
,, VI. Diptera.  
,, VII. Other Orders of Insects.  
,, VIII. Terrestrial Arthropoda other than Insects.

The work will be published at intervals in the form of numbered fascicles. Although individual fascicles may contain contributions by more than one author, each fascicle will be so arranged as to form an integral portion of one or other of the Parts specified above.





